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THE NORTHWEST MAGAZINE

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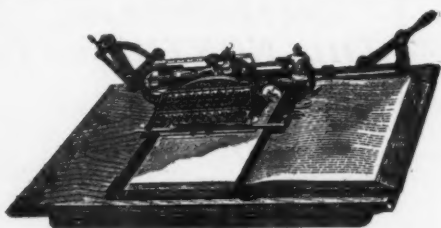
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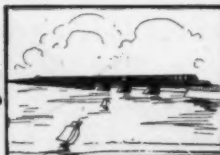
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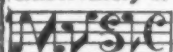
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VICTOR H. SMALLEY, Editor.

The Editor is very pleased to consider any Articles, Interesting Photographs, or Short Stories on Western subjects that may be submitted. A stamped envelope must be sent in every instance to cover postage in case of rejection.

All communications intended for the Editor must be addressed: "The Editor, The Northwest Magazine, St. Paul, Minn."

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STEPHEN CONDAY, Manager.

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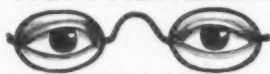
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The Rose and the Heart.

She laughed when he asked for the rose that she wore,
The velvet-cheeked rose she had gathered that day.
She laughed—but her fingers strayed upward to where
Mid the lace on her breast, it lay fragrant and fair.
And 'twas pinned on his coat when he went on his way.

She laughed when he asked for the heart in her breast,
The heart she had guarded from friends and from foes.
"Oh, fickle and false! Who could trust you?" she said.
But he looked in her eyes, and her secret he read.
And she gave him her heart—as she gave him her rose.

DONNA REMSEN.

The Story of the Iron Mines of Northern Minnesota

By John M.
McClintock,
County Attorney,
St. Louis County,
Minnesota

Near the village of Hibbing in St. Louis county, Minnesota, there is a little knoll on the western end of the Missaba Range from whose sloping sides tiny rivulets after each summer shower start on a widely divergent journey, one to the frozen Arctic of the North, another to the tepid waters of the Gulf of Mexico, and still another to the far East by way of the chain of lakes, the roaring Niagara, and the beautiful St. Lawrence, to the Atlantic. The low range of hills to which this same little knoll belongs also enjoys other distinctions besides being the backbone of the watershed which directs the principal waters of the continent towards their respective destinations. Here are found the oldest rocks on the Western Hemisphere, indicating that creation in the Western world began at this point. Here the icebergs in ages long past first met the warm streams from the south, and yielding to their steaming vapors, dropped from their frozen nests vast fields of ponderous boulders which to-day cover this entire region. Here in more recent ages grew into full maturity a mighty forest of white pine, the last great body of its kind standing upon the American continent, but, alas, not long to escape the fearful ravages of the woodman's axe, which for ten years last past has been depleting it at the rate of half a billion feet annually. Here also in this ancient range of hills can still be heard the weird, shrill call of the moose as he challenges his rival to contest the supremacy of his yard far hidden in the muskeg or tamarac swamp. So also is the runway of the deer and caribou more frequent than the pathway of man. But at the base of these hills nature has deposited an endowment more valuable and beneficial than all the other distinctions above enumerated. Here is untold wealth of iron ore. This utilitarian age is distinctively an age of iron. Other ages have been golden with poetry and song, resplendent with chivalry and romance, and heroic in the valiant deeds of its warriors, but this, our day, is an age of iron.

The discovery and development of the iron mines in Northern Minnesota furnish a story of suddenly acquired wealth and

fallen tree. They had traveled far that day, and their pack-sacks, containing tent, blankets and provisions for a three weeks' cruise, had weighed them down heavily. The tree upon which they sat had fallen across a patch of wild ferns through which also a moose had ruthlessly torn his way, leaving in his wake broken stems, some of which were pressed deep into the mossy earth by his ponderous feet. One track, deeper than the rest, was half filled with water caught and retained from the thunder shower of the night before, seeing which, the thirsty cruiser threw himself on his hands and knees and soon drained it of its contents. While his face was still close to the ground his eye caught sight of a metallic glister in the sediment disturbed by his draught. He took some of the glistening earth in his hand. It was gritty, sharp angled and left paint marks on his fingers. He dug deeper and found that there was quite a deposit of the



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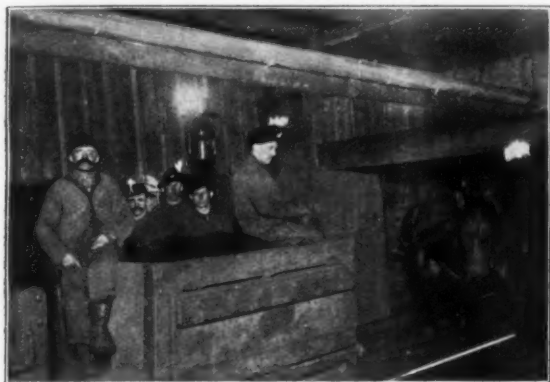


THE BIWABIK MINE, BIWABIK, MINN. THE LAND UPON WHICH THIS MINE IS LOCATED AT ONE TIME SOLD FOR LESS THAN \$300. IT NOW NETS THE OWNER OF THE LAND ANNUALLY IN ROYALTIES NOT LESS THAN \$250,000.

riches which rivals that of fabled Aladdin's lamp. A dozen years ago there was no human habitation upon the Missaba Range. Dense forests of pine covered its hills and impenetrable growths of spruce, tamarac and cedar darkened its valleys. No human foot had traversed its broad expanse except that of the government surveyor and the timber cruiser fast following him, the latter being employed by the wealthy lumber barons of Michigan and Wisconsin to locate and acquire from the government the pine timber wherever found. But one hot day in August, 1889, a timber estimator and his compass-man sat down to rest on a

dark dull red earth, the like of which was unknown to him. He could tell how many feet of lumber a log would cut, how many logs there were in a tree, how many logs to a thousand timber would run, and how much there was on a forty or quarter section, but here in his hand was something that baffled him. He was prompted by the unusual color of the substance to put a few pounds of it (very few because he had to carry it seventy-five miles) in an empty salt sack which he had in his pack-sack and bring it with him to civilization. Arriving at Duluth a few days later he showed his discovery to an old explorer who had for years prospected on the Gogebic and Marquette Ranges in the Upper Peninsula of Michigan, who at once pronounced it iron ore. Immediately quiet steps were taken to acquire if possible the land upon which the ore had been discovered, but it was soon learned that the land which the cruiser's minutes called for was state land, it having been granted by the federal government to the Minnesota state school fund. This was a great disappointment because it has for years been far more difficult to acquire land from the State of Minnesota than it has been to get it direct from the government, and the parties who held this secret well knew that fact. But they were not disheartened. If the pine regions of Northern Michigan, Wisconsin and Minnesota have produced anything they certainly have produced a class of men whose ability for scheming, chicanery and trickery in securing land from the government, state and individual, cannot be surpassed in any part of the globe where land has become the subject of private property. Several others were taken into the secret of the discovery, and together they set about with well laid plans to get control of the property at all hazards. After much "negotiation" and "dealing" the great State of Minnesota, through some of its eminent high

officials, was induced to believe that it had been highly improper for the United States government to have originally conveyed this particular piece of land to the Minnesota state school fund, and that consequently it would be eminently the proper and equitable thing for the State of Minnesota to reconvey said land back to the United States, which exceedingly accommodating arrangement was forthwith carried out. Immediately after the



TRAM CAR AND MINERS 200 FEET UNDER GROUND IN THE ADAMS MINE, EVELETH, MINN.

state had thus relinquished its rights thereto the land was preempted under the federal land laws by one of the interested parties, and thus the great Mountain Iron mine, a property worth to-day \$5,000,000, was forever lost to the schools of Minnesota, and became the private property of a few designing individuals.

The discovery of the Mountain Iron Mine could not be kept secret for any great length of time, and soon the entire Missaba Range for a distance of thirty miles east and west was the scene of intense activity in exploration and development, nor was such effort unrewarded, for within the short period of a few months many mines of immense value were discovered, some within but a few feet of the surface. Such were the Adams, the Biwabik, Fayal, Lake Superior, Lone Jack and many others, any one of which at the present day could not be bought for several million dollars. The method at first used by the explorer was that known as test-pitting, which was nothing more or less than digging a shaft or well into the earth, some of which were sunk as deep as seventy feet, and by which simple method several mines were discovered. As soon as roads were cut through the woods so crude machinery could be gotten in, the churn drill was installed, by which means a larger field was opened up; then still later came the diamond drill, that most ingenious of all mechanisms used in modern mining, whose diamond pointed bits have honey-combed the iron field and added many new discoveries to the already lengthy list, as well as having definitely determined the extent and depth of the previously discovered ore bodies.

Naturally the persons who were most benefited by the discovery of iron ore upon the Missaba Range were the wealthy lumbermen who had bought much of the land for the pine timber which stood upon it. Such were the owners of the Mahoning, Biwabik, Sauntry and Auburn, each one of which annually pays the owner of the land a royalty of at least \$200,000, being at the rate of twenty-five cents for each ton of iron ore removed therefrom, which aggregates quite a handsome income each year, coming from a source totally unexpected. Fourteen years ago the owner of the Biwabik mine bought the land upon which it stands, being eighty acres, for less than \$300 for the timber which was supposed to be growing upon it. Afterwards it developed that there was scarcely any timber there, and an effort was made to compel the former owner to return the purchase price and take back the land, but without success. Last year, 1900, the Biwabik mine shipped in round numbers one million tons of ore, which netted the owner of the land in royalties nearly \$300,000, and such royalties from this property have been continuing, and will continue for several years. It is need-

less to state that the regrets are entertained by the party selling the supposed timber claim.

At the time of the discovery of ore upon the Missaba such lands as had not been taken for their pine largely stood in the name of the government or of the state. The government lands were of course soon taken by many hundreds of people under the homestead, pre-emption and timber and stone acts, some of whom have been richly rewarded by the discovery of ore upon their lands, but more have been disappointed, because ore is not found on one forty in a hundred. The state, profiting by its experience in the shameful loss of the Mountain Iron Mine, thereafter adopted the policy of selling no land on the Missaba, but enacted a law providing for the leasing of any of its lands in the iron-bearing region upon a royalty of twenty-five cents for each ton of ore mined, the operator being obliged to mine at least a certain fixed number of tons each year. By this system many valuable properties have been held as a heritage for the future, some of them being already large revenue producers.

Mining on the Missaba is conducted in a different manner than in any other mining region because of the different conditions governing the distribution of the ore, which appears to have been deposited in beds by alluvial action, just as sand bars are formed by receding waters. Generally there is a surface capping of boulders, gabbro and gravel ranging from twenty to seventy feet covering the ore. When not more than forty feet deep this surface can be profitably removed and the mine becomes a stripping proposition and the uncovered ore can be readily mined and loaded into cars by means of a steam shovel. Of course it is very expensive to strip a surface of twenty acres to a depth of forty feet, but when once the surface is removed the mining proceeds with tremendous strides, for one steam shovel can then do the work of a hundred men. The ore is as soft and friable as common earth, and can be dug up by the ponderous dipper of the steam shovel at the rate of twenty tons a minute. Where the surface capping is more than forty feet deep it has not been found profitable to remove it, but the mine is in such case mined as an underground proposition, the ore being hoisted out of a shaft in large skips or buckets. Some mines, such as the Fayal and Adams, employ both the open pit and under ground methods, because of the ore being covered by different depths of surface. There is still another system, known



THE GREAT MOUNTAIN IRON MINE AT MOUNTAIN IRON, MINN. STEAM SHOVELS ARE MINING ORE ON FOUR DIFFERENT LEVELS.

as the milling system of mining, but conditions for its use are not of frequent occurrence. This method is employed where the grade of the ore is uniform to a very considerable depth and where the surface is shallow enough to remove. After the capping is taken away a shaft is sunken alongside of the ore deposit to a considerable depth below the surface of the ore and a tunnel run out under the ore body towards its center. Through this tunnel and shaft skips are run to the surface. A hole is dug from the end of the tunnel up through the ore to its surface, the falling ore being carried to the surface through the tunnel

and shaft. The ore is caved in from the sides of the hole dug from the tunnel to the surface and falls into skips at the bottom. This process of caving continues until the original hole becomes as extensive as the mine, its entire sides being caved in until no more ore will fall of its own weight. This process has worked to admirable advantage at the Auburn mine near the village of Virginia, where an area covering five acres has been mined to a depth of 200 feet without a shovelful of ore being lifted, the process being always downward, just as wheat will flow out of a hole in the bottom of a bin into elevator buckets below.

The miners who do the manual labor in the mines of the Missaba are generally men of foreign birth, being largely Finns.



THE NORMAN MINE AT VIRGINIA, MINN., SHOWING THE MILLING SYSTEM OF MINING, IN WHICH SYSTEM NOT A POUND OF ORE IS LIFTED BY HAND.

Austrians and Italians. The character of the work, being carried on as it is on such a gigantic scale by the use of the steam shovel, does not call for such skill as do the hard ore mines of the older ranges, consequently the more wiry and skillful Cornishman, the ideal miner of the world, is rarely found in the Missaba mines, unless it be in a position of trust and responsibility. The Cornishman considers himself a miner by inheritance through successive generations, and scorns to be classed with the common herd whose highest skill is to be a beast of burden and shovel dirt.

The ore is loaded into cars specially constructed for the purpose, the more modern ones being made of pressed steel and



STEAM SHOVELS MINING IRON ORE IN THE MAHONING MINE NEAR HIBBING, MINN.

each with a capacity of fifty tons, whence it is hauled seventy-five miles to Duluth or Two Harbors in train loads of a thousand tons each and there deposited in the bins of ore docks built to a height of fifty feet above the surface of the water. These ore docks are immense structures, having a capacity of

many thousand tons. The dock of the Duluth, Missaba and Northern Railroad at Duluth is nearly a mile long and can accommodate fifteen or twenty steamers loading on each side of it at one time. The Duluth and Iron Range Railroad has at Two Harbors docks aggregating in length over two miles. The ore carrying vessel is in keeping with the gigantic strides which has characterized all the other processes connected with iron mining and transportation. From a small, wooden vessel with a capacity of a few hundred tons it has developed into a modern steel leviathan capable of carrying at one load 8,000 tons of ore. The rate from the docks to Lake Erie points is about ninety cents per ton, and as a vessel can make a round trip in about ten days, the ore carrying business is readily seen to be a profitable one, even if the season is confined between the first of May and the middle of November. From the Lake Erie ports the ore is loaded again into ore cars and hauled to the various furnaces in Eastern Ohio and Western Pennsylvania, there to be smelted into commercial iron.

During the year 1900 the mines of the Missaba produced about 8,000,000 tons of ore, valued on the Lake Erie docks at \$40,000,000. Within the last few months the Lake Superior Consolidated Iron Mining Company, which at that time controlled less than one-half of the mines on the Missaba, entered the newly formed United States Steel Company upon the basis of a valuation of \$60,000,000. During the present year it is estimated that the Missaba will ship at the very least 12,000,000 tons of ore, valued on the Lake Erie Docks at \$60,000,000. In the four villages of this Range there are to-day 20,000 people who gain an excellent livelihood from this industry. The solitude of the surrounding forests is broken by the shriek of a hundred locomotives and the whir of the wheels of 5,000 ore cars. During one short decade it has been transformed from a wilderness of forest, swamp and boulders into a field of wealth, enterprise and industry, giving employment to a vast army of men, and supplying to the industrial world an abundance of this most useful of all metals.

A NINE-MILE ELEVATED CYCLE PATH.

The South Californian towns, Los Angeles and Pasadena, are now connected by the strangest and most interesting of links—a magnificent elevated cycle-way, with a smooth surface of wood, running for nine miles through beautiful country, flanked by green hills, and affording views at every point of the snow-clad Sierras.

On this splendid track cyclists may now enjoy the very poetry of wheeling. At Pasadena they may mount their cycles, put their feet on the foot-rests, and sail down to Los Angeles without so much as touching the pedals, even though the gradient is extremely slight. The way lies for the most part along the east bank of the Arroyo Seco, giving a fine view of this wooded stream, and skirting the foot of the neighboring oak-covered hills. The surface is perfectly free from all dust and mud, and nervous cyclists find the track safer than the widest roads, for there are no horses to avoid, no trains or trolley-cars, no stray dogs or wandering children.

The long track that winds like a great green snake through the hills between the two towns is built almost entirely of wood, and is strong enough to bear a service of trolley-cars. No fewer than 1,250,000 feet of best Oregon pine were used in its construction. Throughout the entire distance from the center of the one city to the center of the other it has an uninterrupted right-of-way, passing above roads, streets, railway tracks, gullies, and ravines. At its highest point the elevation of the track is about fifty feet. The maximum grade in the nine-mile run is three per cent., and that only for two thousand feet. Elsewhere the grade averages one and a quarter per cent.

At present the cycle-way is wide enough to allow four cyclists to ride abreast, but the width may be doubled presently. As it is, cycles and motor-cycles alone are allowed on the road, but when the track is widened motor-cars may be permitted the privilege of running over its beautiful surface.—*Pearson's Magazine.*

The Salvation of Captain Dick

BY H. H. THERRAULD

"I've been longing for them to go."

"Now, Captain Dick, what's all this about your not taking your leave?"

The speaker was a lovely woman of twenty, rather above the average height and admirably moulded—not one of your wasp-waisted creatures that look as if they would snap in two, and that make the beholder shudder at the thought of the purgatory undergone and the injury sustained—but with a decent sized waist of twenty-one inches, looking less by reason of its roundness, and so slightly controlled by the triumphs of the corsetiere's art that in all her movements she was lissom and graceful as a kitten.

In addition to a figure that Helen or Cleopatra might have envied, nature had gifted her with a broad, low brow, crowned with a wealth of wavy chestnut hair, a complexion tinted like a Gloire de Dijon rose, dark blue laughing eyes, a delicate little nose that was perhaps a trifle too short to be perfect, and, guarded on each side by a most alluring dimple, a mouth that seemed made to be kissed, and that, when she smiled, revealed glimpses of the gleaming pearls within.

Full of vivacity and brimming over with fun, yet by no means frivolous; fearless and impulsive; gentle and sympathetic to all who needed help and consolation; warm-hearted and generous to a fault; and, like all healthy-minded young women, fond of amusement, which her fine physique enabled her thoroughly to enjoy; and not altogether averse to the admiration of the rougher sex, no wonder that, on her arrival at Fort Assinaboine, a bride of three months, Mary Diana Martland speedily took possession of every male heart in the fort, and that even the women could find no fault in her.

It was now two months since Captain (called by his intimates Charlie) Martland had brought out the young wife he had wooed and married within three months of their meeting; time had pressed, for his leave was expiring.

In her impulsiveness and desire to endear herself to all her husband's friends, this bright young creature had unwittingly made havoc of one man's heart. Dick Richards, the sole other occupant of the room, Charlie Martland's closest friend, was hopelessly in love with her.

Up to her coming, though always courteous and even chivalrous to women, he had cared little for their society, devoting all his leisure time to outdoor sports, in which he excelled. A mighty hunter of big game, good at military steeplechases, a skilful polo player, more than holding his own at lawn tennis—as an all-round man he could give his brother officers a long start.

But, for the last two months, with the exception of an occasional appearance on the polo ground, he had abandoned all field sports, occupying himself in the milder amusement of lawn tennis, and, when not so engaged, in dancing attendance upon Mrs. Martland. In the limited circle of a Montana Station this was sure to excite remark. If anyone inquired for Dick Richards, the reply generally was, "Oh, I don't know where he is; ask Mrs. Martland."

No one was more conscious of his infatuation than the man himself. He had tried to tear himself from the society of his brother officer's too captivating wife, but to do so had been beyond his power. He well knew the hopelessness of his attachment, for he was too loyal to his friend to make the slightest attempt at overt lovemaking; he knew, moreover, that the young wife was so utterly in love with her husband, that, had he done so, his dismissal would have been instant and final. He had to content himself, therefore, with sunning himself in her bright presence, obeying her slightest behest and anticipating her every wish.

All this was very pleasant to the young bride, and at first

she had attributed it simply to Dick Richards' courtesy and good nature; it was beginning to dawn upon her, however, that it was more than this, and her mind was much perturbed in consequence. Her husband had also noticed it, and, having the most perfect confidence in her love, had once chaffingly remarked, "I say, it's lucky for me I married you before you met Dick; never saw a man so gone on a woman before."

To which she had replied, "What nonsense you talk, Charlie. I'm sure he only means it for politeness." But it had opened her eyes, and she decided to find out whether there was truth in her husband's chaff; for, if so, she had arranged a little plot for making several persons happy.

The inquiry with which this story opens was her first step in the development of this little plot.

Lawn tennis had been going on, and all the guests, except the devoted Captain Richards, had taken their departure. The lady, who wore a costume of some thin white woollen material, was lounging back in a canvas bamboo-framed chair, fanning herself with a broad-brimmed straw hat, and looking, in the opinion of poor Dick, absolutely adorable.

And he, though not like some heroes of fiction, an Adonis, Antinous, Narcissus, and Achilles rolled into one, was as fair a specimen of a young American as could be found anywhere. Five-and-twenty years of age, a trifle over five feet ten in height, broad-shouldered, full-chested, flat-backed, thin-flanked, with a fine open countenance, stamped with truth and honour on every feature, and that glowed with health and beamed with good nature; with dark-brown hair that, despite the regulation cropping, was massed in short crisp curls about his well-shaped head; as he stood dressed in a suit of flannels and wearing a jacket of prismatic colors, and leaned on one arm against the mantelpiece in Mrs. Martland's drawing-room, that lady thought him a perfect picture of manly beauty, and, next to her Charlie, the best fellow in the world.

She had got into the habit of calling him Captain Dick, by way of compromise between the formal Captain Richards and the familiar Dick, which was her husband's name for him.

To the question she had just put Dick Richards replied, "Oh, the matter is simple enough; I don't care about leaving at present, and I know Howard would like to see his people; so I shall give up my turn to him."

"But is not this rather a sudden change in your plans? Charlie told me that you would be going East almost as soon as we arrived here; and here you are still."

"Well, you know, I don't require a change; I never felt better in my life; the climate suits me, and, after all, one owes a duty to one's country."

Mrs. Martland looked up at him and broke into a merry laugh. "And pray," she said, "how long have you held these ultra-patriotic and most praiseworthy views?"

"For about two months," he replied, meaningly.

A slightly increased color on the lady's face showed that his shot had gone home.

"Ah," she said, "since they are of such recent date, they cannot yet be very deeply rooted. Probably they will disappear as quickly as they came."

"If by that you mean that I shall change my mind and go East, you are wrong. I was never so happy in my life as I am now and here."

"Are you so happy? Let me speak frankly, Captain Dick; you seem to me to be very restless and unsettled, and Charlie says he never in his life saw a man so altered. Now take my advice; go and seek a wife out of the many nice girls you will meet. We will welcome her with open arms."

"Your advice is well meant, Mrs. Martland," said Dick, in a gloomy tone, "but I shall never marry."

"Never marry? What nonsense; and what a shame. I don't wish to flatter you, but really, when one sees the sort of men that some girls have to put up with for husbands, I think it would be positively sinful for you to withdraw yourself from the matrimonial market."

"All the same, I shall never marry," returned Dick, doggedly.

"Is the picture of our married life so very uninviting, then, as to have turned you into a misogynist? Now Charlie and I had been flattering ourselves that we were such patterns of conjugal felicity that you would take the earliest opportunity to rush off and follow our example."

"That's just it—it's your doing."

"Well, of all the paradoxical, unreasonable—because you see all the happiness of the married state you have made up your mind to keep single. I never heard anything to match that. Do you mean to say that of all the millions of women in the world you have never seen one that you would care to marry?"

"I did not say that, Mrs. Martland. There is one woman in the world I would but too gladly make my wife; but she is as unattainable as though she did not exist. Nothing but the occurrence of an event which may God forbid would render such a consummation possible."

Dick Richards looked straight at his hearer, who made no reply, but flushed up to the roots of her hair.

"I never meant to say this to you, Mrs. Martland, but having gone so far, I will go still further. You are the only woman in the world to me. Until I saw you I never gave a girl a second thought; but, having seen and known you, there is no place in my heart for any other woman."

Mrs. Martland sprang from her seat with flashing eyes and burning cheeks.

"How dare you, Captain Richards!" she exclaimed. "Oh, I am bitterly disappointed in you! And I had looked upon you as my dearest friend. I will hear no more."

"Nay, I must speak; bear with me for a moment, and then, if you will, banish me for ever. I admire, I reverence—nay, I love you more than all other women; but there is no atom of impurity in my worship of you. Even were you the wife of my bitterest foe, instead of my dearest friend, I should know better than to pursue you with a passion as hopeless as it would be base—you, whom I regard as the incarnation of purity, honor, and wifely love and duty! Now send me away, if I have offended past forgiveness. You can forbid me your presence, but, thank God, you cannot rob me of your image and all the sweet memories that are enshrined for ever in my heart."

"I shall not send you away, Captain Richards," was her gentle reply. "Sit down and listen to me now."

He dropped into a chair, and she continued: "When you speak of my wifely love and duty you do me only justice. To me there is but one man in all the world—my hus-

band. I have many dear relations—father, mother, sisters; but I would sacrifice them all, rather than that he should come to harm. I value his little finger more than their whole bodies. I speak thus strongly that you may not misinterpret what I am going to say."

"I am not likely to misinterpret you, Mrs. Martland."

"You said just now that I am the only woman in the world to you. Did you mean that in all sober earnestness?"

"I never in my life spoke a truer word."

"But I suppose, if you could meet with a woman like myself, it would not be impossible for you to transfer your homage?"

"You play with me; it is a cruel jest. The world does not contain your equal."

"But if it does?"

"I would marry her to-morrow."

"Always provided—"

"That I could win her. But why talk thus? I shall never meet the woman that can take your place. Two queens cannot occupy one throne."

"Dethrone Vashti then, and set up Esther in her place. This is not fooling, Captain Dick. I like you too well for that. Now listen; I have a sister so like me that we two can scarce be told apart. Go to New York and marry her."

"Ah, yes, and be your



"Oh, I've been longing to hear from her," said Di.

brother," he said, in a tone of bitterness. "This is the old story brought up to date. The girl who says to the man to whom she is all in all, 'I can't be your wife; let me be your sister.' All very proper and platonic, but not good enough for me."

"Then you won't entertain my suggestion? You are not very complimentary to my sister—nor, in fact, to me."

"Forgive me, I was wanting in courtesy. Of course, I could not but have a high regard for your sister, because she is your sister; but, to marry her, or any other woman, after seeing you—never."

"It is not for me to attempt to force my sister on any man. Indeed, she does not need it, and would be furious at the very idea. Forget what I have said; we will talk of something else. Give me your opinion on my new photo. Will you bring me that album lying on the piano?"

Captain Richards strode across the room to execute his hostess's behest, then returned and handed her the book.

Taking from it a cabinet portrait that lay loose within the cover, she placed it in his hands. "What do you think of it?" she inquired, her face lighting up with a smile that had a touch of wickedness.

For several seconds Dick Richards regarded it with rapt attention; then he raised his eyes to his companion, then reverted to the portrait.

"Well," said Mrs. Martland, "does it do me justice?"

"Wonderful, charming, exquisite!" murmured Dick. "Well, I must say the photographer is to be complimented—it is perfect!"

"Which is as much as to say that he has flattered me—that's really what you mean, Captain Dick."

"No, no; that would be impossible; but—but——"

"Exactly; you mean he has. You are quite right; he has done me more than justice. Now, my dear boy, be candid—you know that it is better looking than I am."

"No, it is not that; but there is a difference somewhere. Ah, I see it now; it is the way of dressing the hair. If I may say so, I think it more becoming than your usual style. I wonder you don't keep to it."

"Well, I'm not allowed to; but thereby hangs a tale, which I will, perhaps, tell you by-and-by. But I admire your taste; it is more becoming."

Dick once more turned his eyes upon the lovely face imprinted on the card. It seemed to fascinate him. Then he looked at Mrs. Martland.

"Show me the other woman," he exclaimed, with fervor, "that could make so exquisite a picture!"

Mrs. Martland's eyes were dancing with mischief; the sweet mouth was puckered up in the vain attempt to preserve a serious mien, which the merry dimples in her cheeks would by no means allow.

"But that is the other woman!" she exclaimed.

Dick stared at her, as though dazed.

"The—other—woman?" he repeated, slowly.

He looked so bewildered that the lady burst into a peal of laughter. Then she said, "Oh, you silly fellow! can't you guess? That's my sister, whose hand you just now declined so cavalierly. Fortunately for her, you are not the only man in the world."

"What!" exclaimed Dick, springing from his seat; "your sister? But no, you cannot have so absolute a counterpart. Oh, Mrs. Martland, I beseech you, do not jest with me, but tell me, in all seriousness, is this photograph a likeness of your sister? You know not what your answer means to me."

Dick fastened his gaze imploringly upon the lovely face of his companion, feeling that his whole future would turn upon her answer. So intense was his emotion, that it made him look quite stern. He afterwards said he knew what a man on trial for his life must suffer while waiting for the verdict.

Her answer soon removed the tension from his mind.

"The photograph in your hand," she said, "is really and truly that of my twin sister."

"Ah!" The smile spoke volumes. Then he threw himself into a chair, and with his handkerchief removed the perspiration that had gathered on his brow.

"You feel better now," laughed Mrs. Martland. "Upon my

word you looked so savage just now that you quite frightened me. So you won't have me for a sister?"

"Won't I? You see if I don't. But is your sister free?"

"So far as I know. She was when I left New York."

"Then I'll win her. You think I have a chance?"

"If she is heartwhole I think you have every chance; for not only are we so much alike in face and form, but our tastes and feelings are the same, and there is no man I should so welcome as a brother as yourself."

"It's very kind of you to say so, Mrs. Martland. There is only one thing about your sister I regret—I wish her name were Diana. When I hear Charlie call you Di, it seems as though no other name would fit you; and your sister is your double."

"Even in this respect also I think you may be happy. Her name, as well as mine, is Diana; I am Mary Diana, and she is Diana Mary—a whim of our father's. He said the twins should start fair, so gave us the same names, but in different order."

"Really! What a sensible man your father must be. I shall certainly call her Di. I hate every other name."

"Aren't you making the pace rather too hot at starting, Captain Dick? Besides, you must own your wife before you can name her."

"You're right, Mrs. Martland. Forgive me the liberty. But I cannot get over your wonderful likeness. I should think it must be rather puzzling sometimes."

"Rather puzzling! It's disgusting! Why, sometimes they don't know us apart at home. We have been so often mixed up that, whether I am myself or my sister, I'm sure I don't quite know. That's why we wear our hair in different styles. We tossed up for choice, and Mary won. She had the best of it then; but I won the choice of names, and determined to be Di. We always dressed differently, and, whenever we buy new frocks, decide upon the color that each shall wear in the same way. When we were children, being so much alike was great fun, for we used to play all sorts of tricks; but when we grew up it became rather embarrassing. You see, when admirers came along and saw two Miss Hiltons as like each other as two half-crowns, it was somewhat perplexing to make a choice."

"Have you seen a dog with several plates before him all containing similar food? He goes running about from one to another unable on which to decide. Well, it was like that with these distracted young men; they would hover about Mary and Diana, sometimes thinking they preferred one and sometimes the other, but never coming to the point. Mother said this sort of thing would never do, though we didn't care a button for any of them. Still, the right man might come on the scene, so for the last two years we have not visited in company, or remained at home at the same time. The funniest thing is that it was all through this that Charlie married me."

"Why, how was that?" asked Dick.

"Oh, yes; he meant having Mary. I'll tell you how it was. He met her at a ball, and—well, what shall I say?"

"'Paid her most marked attention' is the stereotyped phrase, I believe," said Dick.

"Yes, paid her most marked attention, danced ever so many times with her, took her down to supper, vowed he'd never seen a girl to compare with her, and paid her the most outrageous compliments. Mary never told me all he said, but I can pretty well guess."

"Regular gone on her, eh?" interposed Dick. "Image printed on his heart; never forget her, and all that."

"That was about it, I fancy. Well, a few months after that, Charlie came down to where we live, for the hunting, got introduced to my father, and came to our house in the hope of meeting the Miss Hilton who had been his partner at the ball. But it was this Miss Hilton who happened to be at home at the time. Well, you know the rest. Mary not being available, he transferred his attentions to me, taking up his courtship from where he had left it in the ball-room, as coolly and audaciously as if I had been Mary."

"A regular case of courtship by proxy, I declare," remarked Dick.

"It strikes me, Master Dick," said the lady, archly, "that

yours is a very similar case; that is, if you have any notion of proposing to my sister."

"Oh, I'm on there, that's a certainty. I shall start for the East to-morrow."

"But, consider the duty you owe to your country, Captain Dick."

"Oh, that's all tommy-rot."

"Do you know, Captain Dick, that a marked change has taken place in your manner and in the style of your conversation during the last ten minutes. Half an hour ago you were sighing like a furnace, looking as solemn as an undertaker and as melancholy as a man who has just lost his mother-in-law, giving utterance to the most despondent statements in the most highflown language; now you talk about being 'regular gone on a girl,' and 'you're on,' and 'tommy-rot,' and that sort of thing. The change is scarcely an improvement!"

"Ah, now, don't chaff a fellow, there's a dear creature. You've made me the happiest fellow in the country. But why did you not tell me of this sister long ago? Think what a lot of time I've lost."

"I'm not so sure of that. We two sisters are so completely one, not only in appearance, but in everything else pertaining to a woman, that if you know what pleases me you have learned how to commend yourself to her."

"Well, there's something in that; my time has not been altogether wasted."

"Oh, you abominably rude fellow."

"I didn't really mean that; you know how happy I have been here. Forgive me."

"Di! Di! where are you?" This in the tone of a manly voice outside.

"In the drawing-room, Charlie. Come in; I have such news for you," cried Di.

Captain Martland stepped into the room through the open window.

"What is it, Di? Hallo, Dick, you still here?" he exclaimed.

"Yes," said Dick; "but I'm just off. I've a lot to do before I go, and precious little time to do it in."

"Go?" asked Martland, affecting surprise. "Go where?"

"Now don't you begin to chaff, too; I've been catching it hot from Mrs. Martland. To New York, of course. Isn't it time? I've had seven years of this infernal climate."

"Oh, Captain Dick!" said Di; "and only half an hour ago you said you liked it, and that it suited your constitution."

"I did, you wicked woman; but since then my constitution has altered."

"Oh," said the husband of the wicked woman. Then, after a pause, "I believe you've had a hand in this, you witch; now confess."

"Well, perhaps, just a little bit. I showed him that likeness of Mary, and now—"

"Now you've sent him off to marry her," interrupted her husband. "This is evidently the workings of remorse. Having robbed her of one husband, you wish to make amends by finding her another. A most proper—"

A well-directed cushion, launched by Di, caught him full on the mouth, preventing the completion of his sentence.

"Well, old fellow," he said, so soon as he had recovered himself, and had thrown the cushion back, "next to Di, Mary is the finest girl in the world."

"For that pretty speech I forgive your rudeness just now, sir," said Di. Then, turning to Dick, "We will do all we can to help your suit, Captain Dick. I'll write such a letter to Mary, extolling all your good points, and telling her to look favorably on your suit—how fond we are of you, and all the rest of it."

"You are awfully kind, Mrs. Martland, and I can never thank you enough," said Dick; "but will you not think me ungrateful if I ask you not to do anything of the sort—not even to mention my name to your sister? I've the sort of feeling that I should like to score off my own bat—to make all the running."

"I admire your pluck, dear boy," said Charlie Martland. "You're right; you'll do it, too. By Jove he will, Di!"

"I'll ask you just to give me a letter of introduction to Mr. Hilton, though I shall not even use that unless I find it need-

ful. I should like to make my way quite as a stranger. Will you do so?"

"Of course I will. Here goes." And Captain Martland at once sat down to write the letter to his father-in-law.

"Well, good-bye, Charlie, old fellow," said Dick, when the letter was handed to him. Then he took the lady's hand.

"Good-bye, Mrs. Martland. However my journey may result, I shall never forget all I owe to you, and the happy days I have spent here—the happiest in my life."

"Good-bye, dear Dick," she said, her voice trembling with emotion, the ready teardrops glistening in her eyes. She had never called him plain Dick before. "Next time I greet you, I hope—nay, I feel sure, it will be as a brother."

Fondly he looked into her brimming eyes; with an impulse he could not control, he bent his face towards hers. Then he paused. "May I?" he gently asked.

"May he, Charlie?" said Di.

"He may," said Charlie; "just once."

And he did; and so he left them.

* * * *

One morning, three months after Captain Richards' departure, Charlie and Diana Martland were seated in the library when the servant entered with letters just received from home.

"Three for you, Di!" exclaimed Charlie, handing them across to his wife, "and one, I see, from Mary."

"Oh, I've been longing to hear from her," said Di. "I wonder whether she's met Dick yet?"

"I don't. I am sure she has. Married him by this time, I dare say. I know our friend Dick—when he makes up his mind to a thing, he won't be denied. But let's have Mary's letter."

"My darling Di," read Mrs. Martland. "Such news. You'll never dream what's coming; I'm going to be married. There, what do you think of that? And to the dearest fellow in the world. I always thought your Charlie one of the best; but he's not a patch on my Dick, for that's his name."

"Well, I'm sure," granted Charlie; "are you going to stand that, Di?"

"Yes, anything, till I've got to the end of the letter; don't interrupt."

"Yes, Dick Richards," resumed Mrs. Martland, "'and, I fancy, in Charlie's regiment. Isn't that strange?"

"By Jove! he has kept himself dark," interposed the captain. "She fancies he's in my regiment. I like that. But go on, Di."

"But you'll want to know how it all came about," continued Di.

"Well, Captain Richards came down for the hunting, and got himself on the Club. There, of course, he met father. Hearing he had but recently left the West, father asked him whether he knew you and Charlie. He said he had had the pleasure of meeting you occasionally, and that he believed you were well."

Mrs. Martland paused in her reading. "What do you think of that for cool audacity?" she said. "Had the pleasure of meeting us occasionally." Why, the rascal was always in our house. Master Dick, you shall hear of this. However, let's see what she says next."

Resuming her reading, "He made himself so pleasant to father, that dad brought him to the house. After this, he came here, or we met elsewhere, every day; he can ride, Di, and he's good enough to say I can. Well, it was very soon plain to everyone what he meant—he meant me, and I—well, I thought him the finest, the manliest, the most generous, sweet-tempered, the dearest, and withal the most audacious fellow in the world. Yes, Di, audacious. Do you know, he proposed after only a week's acquaintanceship. Of course I thought this a little precipitate, and told him so, though I had utterly lost my heart to him. But he bore down all my arguments by his impetuosity, knocking my half-hearted objections into atoms, and would not be denied. Of course I had to give way. I was really won before he asked me. I am sure we were made for one another. For it is really marvellous how his tastes and views accord with mine. He seems to divine what I like and what I dislike; what I can do well, what moderately, and what not at all; brings me

the songs that just suit my voice and style, and in every way anticipates my wishes. Isn't it wonderful?"

("Not at all," interposed Di; "I could explain it.")

"Oh, I am a lucky girl. And then he pays me the most charming compliments, says that to him there is no other woman in the world."

("Just what he said to me," from Di. "The scamp, he did!" from her husband.) "That, until he met me, he had never given a second thought to any girl." ("Said the same thing to me," from Di. "Did he, indeed!" from Charlie.) "That had he not met me, he would have remained single all his life."

"Well, of all the double-tongued creatures on two legs!" exclaimed Mrs. Martland. "This is really too much. I have some slight recollection of listening to words to the same effect. Oh, faithless wretch!"

"Do you mean to say, madam," asked Charlie, "that he had the impudence to talk to you like that?"

"Well, yes, dear, he had; but it was a sort of despairing wail, when I urged him to marry. The fact was, I was drawing him. It was all for Mary's sake. I wanted to find out how far she was his style."

"Well, there's no harm done, at any rate. Fire away; is there any more?"

"Yes; where was I? Oh, 'remained single all his life. Wasn't it nice of him? Well, I'd no sooner consented to marry him than he wanted it to be at once; said he must get back to Montana—just like you and Charlie over again. We had a long struggle about it, for I didn't want our courtship cut so short. Of course he got his way again; he was so ardent, so persistent, so masterful. I adore a man who is masterful, Di. The end of it is, we are to be married in a month. Perhaps when you get this Mary Hilton will be no more. We shall spend about two months in the East, whence we shall make our way West, when I shall meet my Di once more."

"Writing your name reminds me that we discussed what he should call me. I told him that my first name being Diana, he could call me Di, if he liked. He said that he would rather call me Mary, the sweetest and best of all women's names; that he had always thought Diana a bit of a prude, which I certainly was not; that no doubt it was a very suitable name for my sister. You must forgive him, dear, for it only shows how little he knows you. When next I write to you I shall have changed my name—at least, I hope so."

"Best love to you and Charlie from

"Your affectionate sister,

"D. MARY HILTON."

Mrs. Martland put down the letter. "Dear Mary," she said, in her soft cooing voice, "nothing could have pleased me half so much as this. I was sure, if she and Dick met, they would make a match of it. But, oh! that perjured villain Dick! thinks Diana was a bit of a prude, and that the name is very suitable to me, does he?"

"Oh, Charlie, if you could have heard all he said about my name—that the only thing he regretted about my sister was that she was not called Di; that Di was the sweetest name in the world; that he hated every other name; that no other would express my exquisite perfection. I should just like you to have heard him."

"I'm precious glad I did not," retorted Charlie, "there might have been an accident. Seems to me it was about time for him to make tracks for there. He evidently went it pretty strong with you, Madame Di."

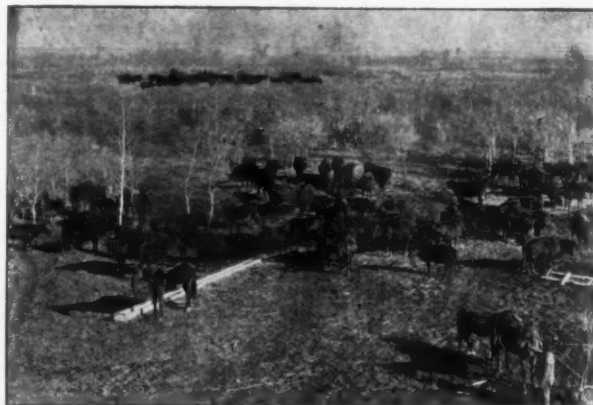
"Well, I'm afraid he did," said Di. "But he meant no harm, poor boy. He was only practicing on me for Mary, doing his courting by proxy; but he never said a word that was disloyal to you. You weren't jealous of him, Charlie?"

"Not of fifty Dicks. I know your truth and love too well, my sweet!" He took her in his arms and kissed her. At that moment the servant entered with a telegram. Captain Martland tore it open.

"Hallo," he said, "it's all over; listen to this from Dick: 'Diana Mary Hilton is no more. R. and D. M. Richards send love to Charlie and Diana.'"

A PROMISING SECTION.

Considerable attention has been attracted of late by the placing on the market of some 50,000 acres of excellent farm land in North Dakota at prices which, under the circumstances, cannot fail to attract homeseekers from less favored sections where higher land values obtain. Mercer County lies in the famous Big Bend country of the Missouri River to the north and west of Mandan and Bismarck, and is not lacking in conditions that cannot fail to attract progressive, intelligent farmers. To begin with, the soil is extremely rich, crops yielding from ten to thirty bushels per acre for wheat, and from eight to eighteen bushels of flax, while the various kinds of succulent grasses must inevitably attract the attention of stock raisers, particularly when it is known that stock lives out all winter in this section without care. The home-seeker from Iowa, Minne-



A STOCK SCENE IN MERCER COUNTY, NORTH DAKOTA.

sota and Western North Dakota has found that Mercer County, North Dakota, enjoys ample rainfall to insure good crops each year, the precipitation being greater than that of any county in Western Dakota. This country is the home of as wealthy a farm settlement as can be found west of the Missouri River, is as good a tract of level farm land as the whole State boasts, and already, with its fertile soil, pure water and healthful climate, cannot fail to justify the confidence of the new settler.

Underlying most of the land in this section is found an excellent quality of lignite coal, in veins of from two to twenty-eight feet in thickness, so that, with little labor, coal for all purposes can easily be secured. The social conditions are above the average found in a farming community, there being churches of the various denominations and excellent school facilities. There is already a fifty-barrel steam flour mill at Krem, elevators on the Missouri River at Manhaven, while creameries here and there indicate the progress made by the farmers in that direction. This section gives promise in the near future of taking its place with the fertile producing agricultural districts in the Northwest.

A RELIABLE BUSINESS COLLEGE.

The Hess Business College, that old and always reliable St. Paul institution, draws students from near and far. Prof. D. S. Coffey, the painstaking principal and proprietor, is one of the foremost instructors in the West, and the facilities and general advantages of his college are unsurpassed. Every branch of the school is presided over by competent teachers. Shorthand, bookkeeping, typewriting, banking, etc., are taught so that graduates become skilled in all branches and are ready to fill first-class positions. Professor Coffey's aim is to thoroughly equip his graduates for any business career taught by him. Hundreds of his former students now occupy positions of trust all over the Northwest, and they can all testify to the splendid efficiency of the Hess Business College. For catalogue, terms and full information, address the college at once.

The



Lake Superior Copper Country

***** BY P. L. HOLLAND *****

At the dawn of the twentieth century the attention of the entire copper-world is intently fastened upon a section of land, situated in the "Upper Peninsula" of Michigan, and briefly denominated the Lake Superior Copper Country. With an apparently inexhaustible output, that is increasing at a stupendous rate, capable of commanding the very highest prices paid for copper, which it produces at the very lowest cost, the Lake Copper District has a right to be considered the most interesting mining field in the world. Its annual profits are greater than those of any other mining district in the world, except the Witwatersrand in South Africa. Its stocks are eagerly picked up and classed with the choicest investment securities on the market. Its mines can produce copper at an average of between eight and nine cents per pound, notwithstanding the employment of the highest and best paid labor in the land. Its mechanical plants, while the costliest and best-equipped in use, are the cheap-

deposition of detrital matter great floods of lava welled forth from fissures and flowed over the bottom of the sea. The copper-bearing belt, or Mineral Range proper, so far as it has been exploited, is practically confined to the lower division of the series, and, so far as present mining is concerned, lies entirely within the limits of the State of Michigan. This belt of rocks covers a narrow strip of country from the end of Keweenaw Point southwest to the state boundary line, a distance of 150 miles. The surface width of the belt in Michigan varies from four to eleven miles. The Mineral Range is a more or less distinctly defined ridge or series of ridges, with a summit elevation of from 500 to more than 1,000 feet above the level of Lake Superior. Only a very generalized idea of the rocks, as exhibited in cross-sections, will be attempted. Neither at Portage Lake, nor in fact at any place on Keweenaw Point, are the lowest beds of the series exposed, the lower portion having been cut off by



A BIRD'S EYE VIEW OF EAST HOUGHTON, MICHIGAN, AS SEEN FROM RIPLEY HILL, IN THE CITY OF HANCOCK.

est and most economical in results. Nowhere on earth are the theory and practice of mining in a more advanced state than here. Nowhere in the domain of mining has capable management combined with able financiering approached nearer to the attainment of the maximum in income at the minimum in expenditure. With enormous and steadily accumulating surplus funds on hand, and with copper mining reduced to a fine art and exact science, the well-managed mining properties of the Lake Copper District can look the future calmly in the face. Whatever fluctuations may betide the copper market in the time to come it is safe to predict that here, at least, not alone the production of copper but the dividend-paying will go on; for the Lake Copper Country will be able to produce and sell copper at a profit when copper is down to the lowest selling price that can reasonably be apprehended.

From a geological standpoint the so-called Mineral Range is a portion of a great series of rocks, which border the south shore of Lake Superior from Keweenaw Point southwesterly, through Michigan and Wisconsin into Minnesota. This series is typically a sandstone formation, the materials of which were accumulated upon a subsiding sea bottom. Contemporaneous with

the great Keweenaw fault. The first bed encountered north and west of the fault line is a coarse-grained, dark, greenish-colored diabase, showing a distinctly spotted or mottled surface, as at Lac La Belle; or it may be a quartz porphyry, as occurs east of the Kearsarge Mine. Then, again, it may be one of the amygdaloidal melaphyrs, as at the Douglass Houghton and Hungarian ravines. At other times a conglomerate will be the lowest bed exposed. It will thus be seen that the fault plane cuts diagonally across the trend of the beds of the range, being in contact, at one time, with a higher, then, again, with a lower bed of the series. To the east of the fault line the further extension of the cupriferous beds is buried beneath thick accumulations of sandstone, and only reappears along its southern limit, fifteen or twenty miles further south. The copper deposits may, for all practical purposes, be divided into two classes—"bed deposits" and "fissure veins." The bed deposits include the cupriferous conglomerates, like the one worked by the Calumet and Hecla and Tamarack mines; and the cupriferous melaphyrs and diabases, "amygdaloids," that are wrought by all the other producing mines of the region. The fissure veins or transverse vein-deposits are worked by such mines as the Phoenix. Such

appears to be, in a few brief words, the geological history of the Range as gleaned from the torn pages of the book of nature.

Geographically the Mineral Range embraces the three northernmost counties of Michigan—Keweenaw, Houghton and Ontonagon, of which the county of Houghton is by far the most important. The following pages are devoted to Keweenaw and Houghton Counties alone, leaving what is known as the "South Range" for future and separate consideration.

The very first copper country town one reaches upon coming into the copper region of Michigan is Houghton, whether traveling over the lines of the Chicago, Milwaukee & St. Paul road, or Northwestern, or the Duluth, South Shore & Atlantic Railway, the two former entering the town over the tracks of the latter. Houghton is the judicial seat of Houghton County and the commercial and financial center of the Lake Superior Copper Country. Stretching along the hill-side on Portage Lake, it extends over an area of two and one-half miles, from the busy metropolitan-looking wholesale district at the west end to the beautiful residence district with its elegant gardens, lovely lawns and wealth of flowers at the eastern end. On every hand one views the unmistakable evidences of thrift and enterprise as well as culture and refinement. One needs not to be reminded that here are the homes of more wealthy men than are to be found within the limits of any other town of the same size, for the traces of wealth are on all sides. The 10,000 population of Houghton is constantly being added to. The copper prosperity of this section of the country has certainly pervaded the town, and it has the air of being the most prosperous city in the "Upper Peninsula."

The creature wants and comforts of the stranger in Hough-

ton are ministered to at the Hotel Douglass, in a style and manner in keeping with the general elegance and hospitality of the town, and it is with pardonable pride that this famous hostelry is pointed to as the finest hotel north of Chicago.

But the most interesting institution in Houghton is the Michigan College of Mines. Being in such close proximity to an extensive and important mining country, it is perhaps the most favorably located mining school in the world. Here is taught practically every branch of mining engineering. In the fine stone buildings, overlooking Lake Portage, are engine rooms, laboratories, machine shops and a wood-turning department in which the students make models from which other students manufacture machines to be used in the actual work of the college. A distinct atmosphere of work pervades the school and its eminently practical character is attested by the circumstance that of over one hundred graduates from the school all have found profitable employment along the lines of their college training, a record unique among technical schools.

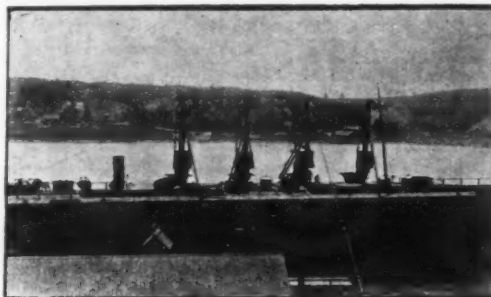
On the hill, just south-east of Houghton and within its city limits, in the Portage Lake District, lies the Isle Royale Mine. When the present Isle Royale Copper Company began its corporate existence, on April 20th, 1899, it had a cash treasury fund of two million dollars, after acquiring title to its lands, a larger sum in hard cash for developing a mine than has ever before been furnished any one copper mine in the Lake District. The properties of this company cover an area of 3,240 acres, all on the mineral belt. It would be possible to open a mine on the Isle Royale lode two and a half miles on surface by almost equal depth, on the company's present holdings. No other Lake Superior Copper mine could open a mine of similar dimensions on



THE SHELDON-DEE BLOCK, HOUGHTON, MICHIGAN. THE FINEST OFFICE BUILDING IN HOUGHTON COUNTY.

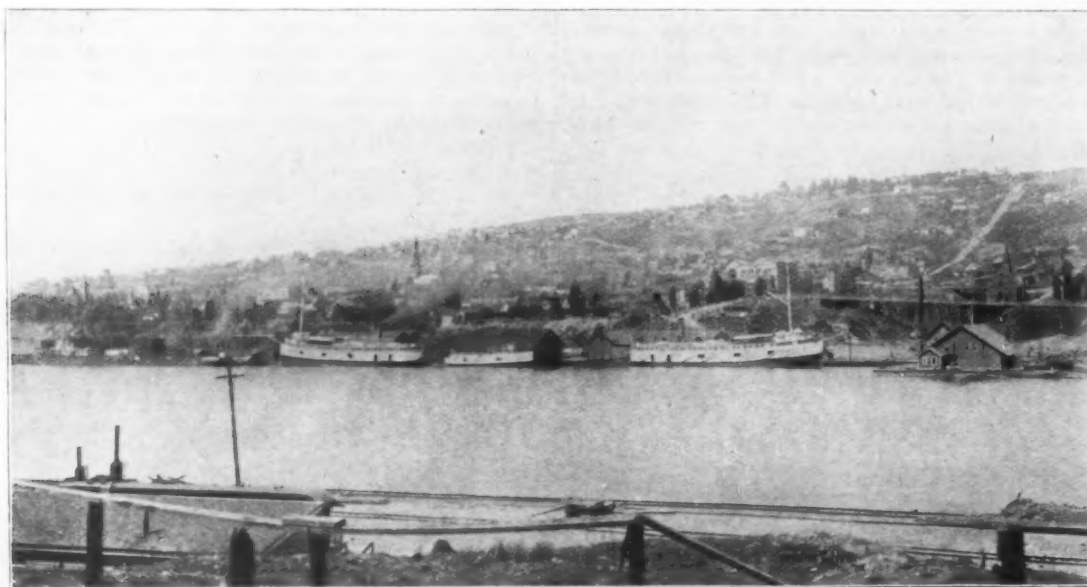
its lands. It is stamping at present 1,500 tons of rock daily. The total amount of copper taken from the Isle Royale mines is about equal to the present annual production of the combined mines of the Lake District, with the exception of the Calumet & Hecla. Its value at the present market price would be about \$10,000,000.

Immediately north and west of the Isle Royale and about four miles southwest of the town of Houghton lies the Atlantic Mine, probably the most economically managed mine in the world. From its organization in 1872 to the end of the year 1899 this mine is credited with a production of 87,248,028 pounds of refined copper. To October 1st, 1900, the company had paid its shareholders \$860,000 in dividends. The Atlantic is opened on an amygdaloid of brownish mottled color, the lode averaging fifteen feet in width. Locally the lode is called the ash-bed from its apparent resemblance to an ash heap. It carries less copper than any lode now worked, and has been famous for years for its profits, wrung from rock yielding much less than one per cent ingot copper. The company owns and operates the Atlan-



COAL DOCKS OF THE DULUTH, SOUTH SHORE & ATLANTIC RAILWAY, ON THE HANCOCK SIDE OF PORTAGE LAKE. ACROSS THE LAKE ON THE HOUGHTON SIDE ARE THE TRACKS OF THE COPPER RANGE RAILROAD.

is the finest of its kind ever built, and is one of the greatest feats of hydraulic engineering ever undertaken. Owing to the pe-



A GLIMPSE OF HANCOCK, MICHIGAN, SHOWING BOAT DOCKS AND QUINCY HILL.

tic Railroad, from the mine to its new mill, nine miles distant, at Redridge at the mouth of Salmon Trout River. Water is furnished from a dam across the mouth of the river. This dam



A COPPER COUNTRY MINE DOCTOR ON HIS WINTER ROUNDS.

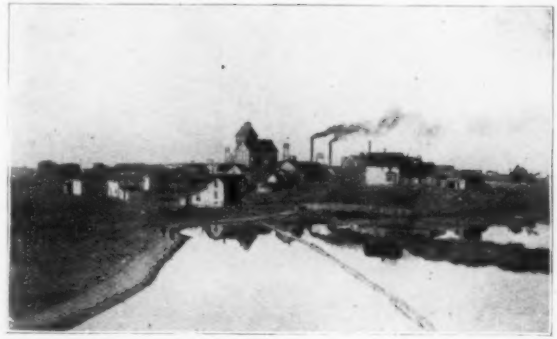
culiar conditions prevailing at the mouth of the Salmon Trout River a dam of ordinary pattern was impossible. The structure erected by the company is known as a steel gravity dam from the fact that the dam proper is of steel, though given some backing by concrete, and because it is held in place by its own weight of steel and concrete, gravity taking the place of anchorages. The dam is made up of five sections with a total length of 475 feet, flanked by wings on the east and west of 350 feet and 200 feet respectively. Its greatest height above bedrock is seventy-four feet. The concrete base is sixty-two feet wide, built up from rock excavation. The dam proper is constructed of plates made of the best boiler steel, concave on the water side, 8x16 feet in size by 3/4-inch thick, supported by parallel inclined I beams twenty-four inches deep, for the full depth of fifty feet below the crest of the dam. The whole steel structure is anchored to a two-inch steel base plate at the bottom of the concrete. The total impounding capacity of this dam is about 1,250,000,000 gallons of water, a quantity equal to all possible requirements of even the driest season.

Leaving the immediate vicinity of Houghton and crossing over to the other side of Lake Portage, connected by a bridge with Houghton, we find the beautiful, thriving little town of Hancock. This town is the twin of Houghton, with a population of between 10,000 and 12,000. The city is charmingly located upon the northern slope of a hill more than 600 feet high,

facing both the rising and the setting sun. Its industries are varied. Mining, manufacturing, shipping and many other lines are all represented here. To the tourist or visitor who seeks knowledge or recreation, Hancock offers all imaginable inducements. Boating, hunting and fishing, the best roads for driving, riding or wheeling, good society, good hotels, and above all the genial hospitality for which Lake Superior people are justly famed, make it a "joy forever."

High above, on the very crest of the hill, this beautiful little city of Hancock is crowned by the massive stone structures and tall shaft-houses of the Quincy Mine. The Quincy is as pre-eminently the world's greatest amygdaloid mine as the Calumet & Hecla is the greatest producer from the conglomerate, and it will rank about ninth or tenth among the great copper mines of the world. About one-third of the yield of the mine, taking one year with another, comes in the shape of mass and barrel copper, which goes direct from the rock-houses to the smelter. The remaining two-thirds is taken from stamp-rock and treated at the mills. The Quincy Mining Company's total receipts from its organization in 1848 to the end of 1899 were \$38,569,253, and for the same period it has paid in dividends \$11,070,000. During the year 1899 its net income was \$928,666, and on January 1st last the company had on hand a balance of \$1,207,942. Accordingly nearly thirty-two per cent of the gross earnings were net profits, in addition to which there is the mine worth more than \$15,000,000, basing its valuation on the present selling price of Quincy shares. As a matter of fact, the Quincy was never so great or so prosperous or had such excellent prospects as to-day.

From Lake View depot at Hancock we take the Duluth, South Shore & Atlantic Railway towards Calumet, fifteen miles distant. Whirled in a palace car up the mountainous hill-side and thence over the rolling plains of the Keweenaw peninsula's backbone on towards Calumet, it is difficult to comprehend that a little over a generation ago there were dense forests where now there are busy mining camps, interspersed with peaceful farms and pasture lands. But this is a country of surprises. On our way, not far out from Hancock, we see the Arcadian Mine, which, it is generally believed, is opened on the northerly continuation of the Isle Royale amygdaloid. Its lands are the most extensive held by any mining corporation, comprising about 4,000 acres. It is noted for having the best planned equipments in the way of shops in the entire district, and it is surpassed in this respect by only a few mines on the globe.



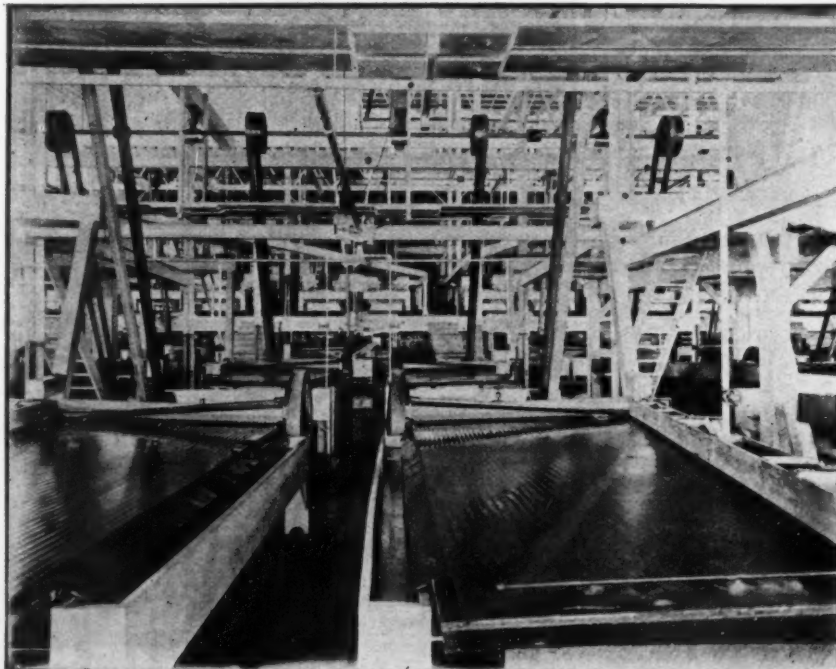
NORTH TAMARACK, MICHIGAN.

A little farther on towards Calumet we behold the Osceola Mine, which, after many vicissitudes, has eventually become one of the great and profitable mines of the district. The Osceola and its neighbor, the Tamarack, are under the same Eastern and local management. By joining forces the two mines are able to accomplish many things which it would be unwise for either to attempt singly. In 1899 the Osceola Company paid out \$558,450 in dividends, and on December 31st, 1899, its net surplus fund amounted to \$546,867.

Close beside the Osceola, and, as already said, under the same management, is the great Tamarack Mine. This property is one of the most interesting as well as the second largest mine in the district, and none has greater possibilities. The mine is opened on the underlay of the Calumet conglomerate reef, and to some extent on the Osceola amygdaloid as well. During the year 1899 there was broken from this mine alone 775,532 tons of rock. The mineral obtained for that year was 31,713,752 pounds, and the refined copper amounted to 18,565,602 pounds. The percentage of ingot in the Tamarack mineral runs from sixty-five to seventy per cent, according as to how it is dressed at the mill.

Twenty years ago, when Capt. John Daniell conceived the idea of opening a mine on the underlay of this lode by means of vertical shafts, it was regarded as a crazy conceit, and only after several years' effort did he succeed in

interesting the necessary capital in the undertaking. At length shaft No. 1 was sunk, and, after three and a half years, at a depth of 2,240 feet (only ten feet more than Capt. Daniell had estimated) the first and uppermost paying copper measures of the Tamarack were struck. Since that time various shafts have been sunk, the latest being shaft No. 5, which was the most important work ever undertaken by the company. On December 20th, 1900, the lode was cut at a depth of 4,662 feet. The fact that the lode has not continued to flatten out at this great depth is good evidence that the bottom of any "basin formation" is still at a great distance, which argues well for the continuity of the lode. At No. 5 shaft one of the finest engines ever constructed was placed in position. The drums in this hoist are among the largest ever constructed, having a diameter of twenty-five feet, and are capable of holding more than a mile of 1½-inch steel cable. Another remarkable feature of this splendidly equipped mine is its new pumping plant, the cost of operation of which



AN INTERIOR VIEW IN THE NEW QUINCY STAMP MILL, SHOWING SLIME TABLES IN THE FOREGROUND.



A VIEW OF CALUMET, MICHIGAN, SHOWING A PORTION OF THE CALUMET MINE LOCATION, THE THIRD LARGEST AND BEST EQUIPPED MINE IN THE WORLD.

1. Shaft house of the Calumet. 2. Engine house containing the famous Mackinac engine, 7,000 horse power and Superior engine, 4,700 horse power, two of the largest stationary engines in the world. 3. Smoke stack boiler house where 100 tons of coal per day are consumed. 4. Calumet High School and Manual Training School.

does not exceed \$10 per day, including fuel and wages. As a dividend-payer the Tamarack stands well up at the head of the list. The total dividend disbursements of the company up to the end of 1900 was \$7,290,000. Of this amount \$1,020,000, or \$17 per share, represents the dividends paid in the year 1900.

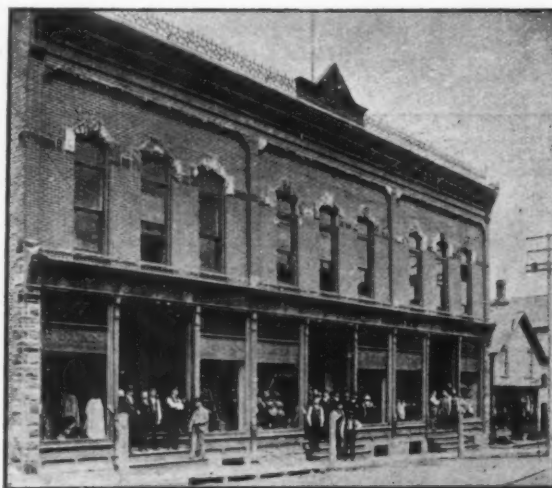
We have now arrived at Calumet, and as we step off on to the platform at the depot we are reminded at once that we are in the greatest and most populous mining camp in America. From the first moment of our entry everything seems on a metropolitan scale. At the depot all is bustle and hurry and confusion. In a moment we are swallowed up in the surging crowd of humanity, bent on a thousand different errands, pushing, and jostling and elbowing their way past one another. No sooner have we arrived upon the streets than we begin to dodge vehicles and conveyances with all the dexterity at our command. On all sides great heaps of brick and stone and iron and steel and every conceivable sort of building material block the way and obstruct the traffic of the town. Towards the decline of the day, and particularly between the hours from five to seven in the evening, the rush and throng on Main Street becomes something furious, and it would require but a small stretch of the imagination to think oneself on State Street in Chicago.

In reaching Calumet we have reached the copper country *par excellence*. In fact Calumet and copper are interchangeable terms. Copper has built and made Calumet. A generation ago its site was covered with a dense growth of forest and undisturbed, unbroken primeval silence brooded over the place. Today the arrival of man with all his noisy, relentless machinery and implements has transformed the face of nature, and, amidst all the changes that have come, only the glorious, health-giving climate remains the same.

Strictly speaking Calumet is not a town at all, but rather a non-municipal consolidation of several original settlements, with in whose limits are the incorporated villages of Red Jacket and Laurium, and sections between and about them, which, like Calumet proper, come only under the township government. What is properly called Calumet is, therefore, an anomaly, and, though to all intents the largest city in the Upper Peninsula having a population of almost 40,000, it is not a distinct municipal entity. The reason assigned for its failure to become incorporated is the additional burden of taxation and municipal expenses, which incorporation would entail. And it is but just to say in passing that no better results than the present could be obtained by incorporating, as Calumet is in every way an ideal, well-governed, orderly, law-abiding community. The village of Red Jacket, with its marshal and three policemen, is capable of preserving the peace and quiet of the entire township of Calumet and its 40,000 inhabitants, including representatives of thirty-three different nations.

The village of Laurium is the fashionable residence district of Calumet, conspicuous for its numerous elegant and costly man-

sions and its well kept spacious lawns and gardens. The village of Red Jacket, on the other hand, is the scene of Calumet's business, trade and commerce. One is surprised at the magnificent scale on which this town is spreading out. Six and seven story business blocks are going up in various sections of the town. To Red Jacket, too, belongs the distinction of possessing the handsomest theater west of Pittsburgh. It is called the Calumet Theater. The beautiful designs, coloring and shading of its interior, and the elegantly finished paintings on its proscenium-arch combine to render this temple of Terpsichore a work of the highest art, admired by all and forgotten by none that ever saw it. The floor above the theater is set apart for the Calumet Town Hall and a large banquet room, for use on great public occasions,—the appointments of both of which are in keeping with the splendors and richness of the theater below. And not the least remarkable thing about this remarkable institution is



E. RYAN'S GENERAL MERCHANDISE STORE, AT CALUMET, MICHIGAN.

without parallel in the entire country.

That the presence of copper in and about this region has been known for hundreds of years is apparent from the traces of ancient workings discovered within the immediate vicinity. These pre-historic miners were probably those mysterious people, the Mound Builders. Their methods were of course extremely aboriginal, hard rocks being used for hammers. Wood ashes that have been found indicate that masses of native copper were freed by heating surrounding rock to a high temperature and then that it was built and is kept and maintained by the village corporation as a public utility, in which respect it is, we believe,

dashing cold water upon it to split it. That these shrewd people possessed the lost secret of hardening copper is demonstrated by the ancient implements and tools unearthed from time to time by the explorers of this country.

But, astounding and interesting as may be the accomplishments of these ancient people, they are eclipsed by the wonderful achievements and triumphs of the men of to-day. Here is the spot where is located the most valuable mine not only of the Lake Superior District but of the entire world, exceeding all mines of copper, silver, gold and diamonds, a giant among mines, dwarfing all its competitors—the transcendently great Calumet & Hecla. A large volume could be written without exhausting the possibilities of the subject. Of all mines the Calumet & Hecla is the deepest, the largest employer of labor, the owner of the most powerful machinery, the greatest consumer of coal, and the greatest dividend-payer. Of the total Lake Superior copper production fifty-four per cent has come from this one mine. It began to be a mine almost from the grass-roots down.

The Calumet & Hecla was opened on what is known as the Calumet conglomerate, a strong, clearly-defined reef, once the bed of a sea, stretching approximately northeast and southwest. Situated beneath the town of Calumet this vast mine is a mile deep, a mile wide and two and a half miles long. This immense rock is drilled with many shafts, notable among them being the "Red Jacket," after which the town of Red Jacket is named and which is a vertical shaft penetrating 4,900 feet into the bowels of the earth. There are cross-cuts at thirty different levels, and from these copper is taken, at certain places so pure that it might be stamped into coin without any process of refinement.

In the twenty-three years of its existence this vast corporation has produced almost a billion and a half pounds of copper, and has paid to its stockholders \$72,850,000 in dividends, and these have been growing larger every succeeding year. During 1898 and 1899 alone the extraordinary sum of \$15,000,000 was paid out in dividends. The market value of Calumet & Hecla stock is truly phenomenal, hovering not far from the \$750 mark, and once, in February, 1899, jumping up to \$895 per share. Its stockholders are scattered through thirty different states and eight foreign countries.



THE MAGNIFICENT OPERA HOUSE AT CALUMET, MICHIGAN, THE HANDSOMEST THEATRE WEST OF PITTSBURG. IT WAS BUILT AND IS MAINTAINED BY THE VILLAGE CORPORATION OF RED JACKET, IN WHICH RESPECT IT IS WITHOUT PARALLEL IN THE ENTIRE COUNTRY.

Every equipment in this mine is on a stupendous scale. It uses the most powerful hoisting engines ever built. The "Jumbo" engine house is an unceasing attraction to visitors. There are located the big Corliss engine, "Superior," of 4,700 horse power, having a forty-inch cylinder and 70x72-inch stroke; the "Rockland," with 600 horse power, and the "Baraga," with 2,000; two Rand air compressors, with capacities of twenty-five and forty drills, and the engine "Mackinac," a quadruple-cylinder, triple-expansion steel giant of 7,000 horse power. There are also four drums; 20 feet 6½ inches in diameter by 8 feet 4 inches face, to hoist from four different shafts. But to attempt to describe in details these monstrous machines would be to exceed the prescribed limits of a magazine article.

An elaborate system of fire protection has been devised and installed, including electric signal systems, water pipes, hydrants,



CONGLOMERATE ROCK ARCHWAY, ON THE SHORE OF LAKE SUPERIOR AT COPPER HARBOR, MICHIGAN.

hose, chemical engines, etc., all underground, supplemented by a complete and metropolitan fire department on the surface. A telephone system has also been installed underground. It is connected with the long distance Bell system, and the president of the company in Boston can talk with the pumpman on the forty-first level of the mine, without the one leaving his chair or the other his station.

No mining company in the world has made more generous provisions for the comfort and contentment of its employees, and there are 5,000 such in the pay of this gigantic concern. Through the liberal, beneficent policy of its president, Mr. Alexander Agassiz, the workingmen enjoy free medical attendance, a splendid free library, free bath-houses and a free manual training school and gymnasium. There are twenty-six churches and a large number of school buildings on the Calumet & Hecla property, which have been reared by the company at its own expense. Lastly, the company owns more than 1,000 dwellings, which are rented to its employes at a practically nominal rental. That this policy is appreciated is evidenced by the entire satisfaction and concord prevailing between the company and its workingmen, and the Calumet & Hecla can make the boast that it has never had a strike. No description of the Calumet & Hecla would be complete without at least a brief reference to an organization, which is the joy and pride of all Calumet—the Calumet & Hecla Band. Under the zealous and fostering care of Col. J.

N. Cox, the cashier of the company, the band has grown to be one of the largest and best musical organizations in the land; and Col. Cox's ambition was in no small measure gratified when his "boys" carried off the first prize of \$1,000 on July 24th, 1901, at the Elks' Carnival at Milwaukee, Wisconsin.

A close neighbor of the great Calumet & Hecla is the Wol-

idly from Lilliputian size to its present rank among the forty largest copper mines of the world. In 1899 it held sixth place as a producer and fifth place as a dividend-payer among Lake Superior copper mines, its production for that year being 4,500,373 pounds ingot copper, and its dividends \$270,000. The mine is well equipped with boilers, hoisting machinery, air compressors



ROBERT H. SHIELDS,
Houghton.



R. R. SPAULDING, D. D. S.,
Calumet.



JOHN D. CUDDIHY,
Calumet.



A. F. HENNES,
Calumet.



JOHN R. RYAN,
Calumet.



PROF. THOS. WILLS,
Calumet.



J. F. HAMBITZER,
Houghton.



ED. E. MERZ,
Calumet.



JUDGE E. F. LE GENDRE,
Calumet.



MAYOR A. J. SCOTT,
Hancock.



LEWIS H. RICHARDSON,
Houghton.



ARNOLD A. MILLER,
Calumet.

A GROUP OF WELL KNOWN COPPER COUNTRY CITIZENS.

verine. Its mines embrace a tract of 280 acres on the copper belt, of which more than 200 acres crosses the Kearsarge amygdaloid lode, on which the mine is opened. The Calumet conglomerate crosses the northwest corner of the property, but in such little quantities that it would hardly pay developing. The capital stock of the company is only \$60,000; yet, under its present efficient management, the Wolverine has grown rap-

and drills. Affairs run smoothly with little interruption from year's beginning to year's end; and if there is anything in the old saying that that country is happiest which has the shortest history, the Wolverine may be considered fortunate.

Connected underground with the Wolverine is the Kearsarge Mine, one of the growing members of the Osceola partnership. It is opened exclusively on the Kearsarge amygdaloid, and has

1,120 acres of land on the mineral belt. Up to February, 1901, the Kearsarge had paid out \$160,000 dividends, and this mine will soon stand well up in the list of reliable dividend-payers.

The remaining members of the Osceola group are the Tamarack Junior and the South Kearsarge. The former is a tract of 120 acres, one-fourth of a mile wide and three-fourths of a mile long, sandwiched between the Centennial on the east and the Calumet & Hecla on the other three sides. It works the Calumet conglomerate, of which it has a small area of very richly mineralized ground. The South Kearsarge possesses a very valuable section of the Kearsarge amygdaloid. Work was only begun on this property late in 1899, and it will, without doubt, be prominently heard from within a couple of years.

Directly east of the Tamarack Junior, and also in the mining camp of Calumet, lies the Centennial Mine. The Centennial property embraces somewhat more than one square mile and also an additional triangular patch of land of about twenty acres. This strip was secured because it carries the outcrop of the Kearsarge lode, which underlies the entire square mile of the Centennial, but does not outcrop on any point thereon and which could have been developed only by vertical shafts had not the outcrop been obtained on this twenty-acre patch. The Centennial is well supplied with mine buildings and all sorts of modern machinery. A very valuable asset of the Centennial Company which has received consideration only recently is its real estate, suitable for building purposes. There is a great present demand for building lots on two additions platted and sold by the company and known as "Centennial Heights." The company's revenue during 1900 from sales of copper produced and from lots sold was very large, and its strong financial showing at the close of the present year will probably exceed the expectations of the most sanguine shareholder.

Still another property not to be overlooked in a description of the great Calumet Mining Camp is the Franklin, owned by the Franklin Mining Company. This is one of the oldest corporations in the Portage Lake District, having been in uninterrupted operation for more than forty years, in which time it has levied assessments of \$220,000 and has disbursed twenty-one dividends, aggregating \$1,240,000. The old Franklin is a "scram," but a valuable one. Recent systematic search through the old openings has resulted in the discovery of a great deal of profitable ground previously overlooked, and there is work ahead for several years to come. At the Franklin Junior there are two separate mines, one of which is the old Albany & Boston, on the Allouez conglomerate, the other being the mine opened on the Pevabic amygdaloid. In addition to the two lodes mentioned the Mesnard epidote was opened in August, 1900, by a cross-cut and is rich in very fine copper. And in further addition to these lodes the Franklin Junior also carries the Calumet conglomerate and Osceola and Kearsarge amygdaloids. While the best hopes of the Franklin Junior at present lie in its conglomerates, there is every prospect that the amygdaloid working will continue to steadily improve with depth.

Leaving Calumet station on the Hecla & Torch Lake Railroad, owned and operated by the Calumet Mining Company, a brief ride of four miles brings us to Lake Linden, one of the most interesting spots in this very interesting country. Lake Linden is a very thriving and fast growing town of about 8,000 population, engaged in an extensive and ever increasing retail and wholesale trade. It is considered one of the most promising towns in the Upper Peninsula. But its chief attractions and a source of never-failing wonder to the tourist of the Lake Superior Copper Country are the immense stamp mills of the Calumet & Hecla Company on the shores of Torch Lake. Ceaselessly, night and day, except in the interval of the Sabbath, the great wheels revolve and the dividend-earning goes on. There are two mills, the "Calumet" and "Hecla," containing eleven Leavitt steam stamps, each with cylinders 14x21½ inches, with 24-inch stroke and the necessary complement of jigs, slime-tables, etc. A new mill having six stamps is about completed, giving the Calumet & Hecla a milling capacity of nearly 7,000 tons of conglomerate and 3,000 tons of amygdaloid daily. The water for washing the stamped rock is furnished by the pumping engine "Michigan," much the largest pump in the world, with

a capacity of 65,000,000 gallons per day. Three smaller auxiliary engines are capable of providing an additional capacity of 50,000,000 gallons. All told, the daily capacity of the Calumet & Hecla, including its mine pumps, mill pumps and water works pumps, exceeds that of any other corporation in the world, with the single possible exception of the City of Chicago.

The daily disposition of upwards of 5,000 tons of stamp sand was a problem until four great sand wheels were devised. These are large wheels, having wooden buckets on their inner periphery, which take the "sludge" from the pit where it is deposited by the launders from the mill and elevate the sand in solution to a launder on high trestles, which carries the sand and water far out into the lake.

Since the time when the blast of the whistle for the first time called the workmen to the mills on January 1st, 1868, over 20,000,000 tons of rock have been stamped and crushed at the Calumet & Hecla mills. Were this rock erected into a wall eight feet wide and sixteen feet high it would extend from Lake Linden to Chicago, a distance of 500 miles. If loaded into six-ton cars it would make an unbroken train, encircling one-sixth of the globe, and as its locomotive, headed west, pulled out of Chicago, the last car would be leaving Liverpool, 4,300 miles away.

Boarding the Duluth, South Shore & Atlantic Railway and still skirting the shores of Torch Lake, a few miles' ride from Lake Linden brings us to the great smelting plants of the Calumet & Hecla, at South Lake Linden. The smelters have been added to from year to year until they now cover the larger portion of a thirty-acre tract of land. Four furnace buildings, 80x130 feet, a blister copper furnace, 50x70 feet, a cupola building, a warehouse, a laboratory and assay office, a machine shop, a boiler house and the mineral storehouses occupy the ground.

There is all the fascination of Dante's *Inferno* in watching the silent, grimy human forms as they walk like condemned souls, ceaselessly to and fro between the lurid, fiery furnaces and long rows of small bath-tubs, into which, with long-handled dippers, the precious shining metal is poured in one living molten stream. And to make the delusion still more complete, their toil appears to be hopeless and endless, for no sooner are the tubs filled than, as if by magic, they empty their contents into great vats of water to cool, and the work must be done over and over again.

Only a short distance south of the Calumet & Hecla smelters the stamp mills of the Tamarack & Osceola loom into view. They are two in number and contain seven stamps, with a daily capacity of upwards of 2,500 tons of conglomerate rock. A pump of 40,000,000 gallons daily capacity, second only to the pumping engine "Michigan" at the Calumet & Hecla mills, supplies water through a tunnel to both the Tamarack and Osceola mills. The high efficiency of this plant may be inferred from the excellent results secured in the way of low costs and small loss of metal in the waste sands. For the year 1899 the cost of milling each ton of rock stamped was but 22.7 cents. So far as is known this is the lowest record for milling ever made on conglomerate rock, being less than one-half the cost of milling ten years ago. By this reduction in the cost of stamping and washing, the Tamarack saved upwards of \$150,000 in 1899.

Looking out of the car window just before Dollar Bay is reached we behold projected against the distant horizon the Arcadian's mills to the left and the new Quincy stamp mills to the right. The Arcadian's stamp-mill site is one of the finest in the district, consisting of 406 acres. It has a water frontage of one and one-fourth miles, giving ample sand-room for generations to come. The mill itself, while exceeded by others in size, is second to few in construction, equipment and efficiency. A steel mill building on masonry foundations it contains three stamps, each capable of sustained runs of 550 tons daily. One hundred and eight jigs and nine double-decked Fraser & Chalmers slime tables, each equal to two tables of ordinary pattern, occupy the same rooms. A 15,000,000 gallon triple expansion pump, located in a steel pump house, is capable of furnishing water for a mill double the capacity of the present one. The results recently secured at the mill are highly satisfactory, and come very near to the rock-bottom basis reached by the Tamarack.

Passing on to the plant of the Quincy the very first thing

that strikes one is the tidiness of the mine buildings and the mill-site. There is a place for everything, and everything is in its place. The same neatness appertains to the Quincy mine location, whose streets have the appearance of having been swept and cleaned every morning. The new mill, which was completed early this year, is notable for its great number of large windows, there being no less than 180, each with over thirteen square feet of glass in its sash. On the inside everything is painted pure white. This gives a flood of light in every part of the building and is an innovation likely to be followed in future construction. The mill contains three Allis heads, with 20-inch cylinders, constructed by the A. P. Allis Company of Milwaukee, and claimed to be the most efficient and economic stampheads in use. They rest upon unusually massive foundations, constructed of deep and wide beds of timber and concrete, over each of which there is a bottom plate of twenty-two tons, a middle plate of eighteen tons, and a top plate of eighteen tons, all solid castings of iron. A radically new departure in this mill is the absence of all finisher jigs and slime tables and the substitution thereof of Wiffley concentrating tables. These have been tried at a number of mills lately, and at the Quincy their work has resulted in saving about one-third of the copper formerly lost in the tailings when finishing jigs and slime tables were employed.

The last object of interest which greets our sight as we speed along on the Duluth, South Shore & Atlantic are the splendidly equipped, modern smelting works of the Tamarack & Osceola at Dollar Bay. What the actual smelting costs are at this plant is a secret not divulged by the company, but they probably run well under \$5 per ton or one-fourth cent per pound. Mr. J. J. Case, the superintendent of the smelter, is not only an experienced man with a thorough theoretical and practical knowledge of smelting, but is prolific in improvements and new ideas which have served to greatly reduce the cost of handling the mineral and copper as well as to simplify the work, thus adding immensely to the productive capacity of the plant.

A ride of a few minutes more and we are back again at the village of Hancock. We have traversed a stretch of country which can be comfortably made over the line of the Duluth, South Shore & Atlantic in a ride of three hours. Within the area of this short journey lies a tract of land probably the most valuable of its size on the globe. To-day all the money of the richest man in the world could not buy it. And yet there are old men still living who can remember the time when the entire country would have been spurned as a gift by the poorest.

Directly to the north of the territory just described lies what is known as the Keweenaw District. It is the uppermost portion of the Upper Peninsula, jutting at its point into the waters of Lake Superior. Notwithstanding that it was the first field which engaged the attention of the copper explorer its development has been far less rapid than that of its southern neighbor, though it holds out great promise for the future of assuming a high rank as a copper producing country.

The Keweenaw series consist of three elementary distinct classes of rock—the traps, amygdaloids and conglomerates. The first two are old lava flows. The conglomerates are composed of broken rock, sand and gravel, cemented by pressure and once formed sea beds. Copper is found in a chemically pure or native state, in the amygdaloids and conglomerates and occasionally to a limited extent in the traps. Various fissure veins of copper ore have also been found, especially on Keweenaw Point well towards the eastern end.

The country is entered from Calumet by what is known as the "Copper Harbor Road," a beautiful driveway stretching north as far as Eagle Harbor, thirty-five miles distant, and skirted all the way by a bicycle path, the extensive use of which amply bespeaks it as the wheelman's favorite. Bordered on both sides for miles and miles with beautiful woods and fields of wild flowers, and embellished here and there with wayside springs, this hard, smooth driveway is one of the delights of this picturesque northern country and fascinates alike the pedestrian and those who travel on two wheels or four.

Before we have hardly had time and leisure to become enamored of the manifold beauties of nature that surround us on all

sides our thoughts are again diverted to the handiwork of man as the works of the Mohawk Mine come into view, scarcely two miles from Calumet. This is a new mine from the grass-roots down; one of the few really new mines in this district. The discovery of the outcrop of the Kearsarge amygdaloid on the Mohawk property some six years ago was an accident pure and simple. Immediately that the importance of the find was recognized the Mohawk Company was organized. The moment its shares were placed on the market the demand was so eager that many prospective subscribers were unable to obtain shares at all and the allotments of others had to be reduced. The very first sales of the stock on the curb were at \$15, and the Mohawk's shares never dropped below subscription price, even during the period of depression that followed the great copper boom which culminated in the spring of 1899. In No. 1 shaft a fissure vein of copper ore was cut. This proved to be an entirely new mineral never before found, and was named "Mohawkite." Upon analysis the ore proved to be the double arsenide of copper and nickel, carrying about two per cent of cobalt and traces of iron. At first the find was regarded with merely academic interest, but after the analysis gave returns of sixty-two per cent copper and seven per cent nickel the fissure vein assumed a commercial importance. Should the vein hold out to considerable depth and prove of fair length, and the indications are that it will, it would be immensely profitable. Taking into account furthermore that the Kearsarge lode is apparently richer in the Mohawk than in either the Wolverine or Kearsarge mines, it is not surprising that the future of the mine is not considered open to doubt by the experienced mining men and investors of the copper district.

Resuming the drive along the County Road, through densely wooded primeval forests and pictured rocks, encountering once more all the charms of a hill-bound country, there suddenly rises before us on our left the Phoenix, whose bluffs rival in picturesque and stately beauty even the far-famed historic palisades of the Hudson.

The present Phoenix Consolidated Company is the direct and lineal descendant of the Lake Superior Copper Company, the first regularly organized corporation to engage in Lake Superior copper mining. There are four fissure veins on the Phoenix property and it is also traversed by the Calumet conglomerate. It can be truthfully said that from the time it was opened until it came under the management of the Stantons, its present owners, the Phoenix suffered more from general mismanagement than any other mine in Keweenaw County. A score or more of copper-bearing fissures were opened in the past sixty years, and upon none of them was the work continued any length of time, owing to the vacillating policy of its managers. From these openings more or less copper was taken out, but with improved appliances and intelligent mining, great success could have been accomplished. At the sixth level the largest mass of virgin copper ever taken from the earth, weighing over 600 tons, was found, but so inefficient was the management in control at that time that, with a value of thirty-two cents per pound, little if any profit was made from this magnificent mass. About one mile from the lake is situated what is known as the ashbed vein on which the Phoenix mined exclusively for a number of years. This is a well-defined scoriaceous amygdaloid, carrying a high-grade copper. In no place where mining has been done on this belt has more copper been produced to the cubic fathom than on this property. It is the consensus of opinion among the best mining men on Lake Superior that with up-to-date methods this master lode can be made one of the lasting producers of the Lake Superior region. And a circumstance auguring the realization of these expectations is the fact that the Phoenix is now in the hands of the Stanton management, which is considered by the copper world a guarantee which leaves it only a question of time before the Phoenix will assume its place among the dividend-payers of the Lake Superior Copper Country.

Pursuing our course a little farther north we behold near Eagle River the first copper mine ever opened in the Lake Superior District since the pre-historic days of the mound-builders and the first mine that ever paid a dividend from Lake Superior

copper—the Cliff. From the date of its first dividend in 1849, this mine disbursed in all thirty-seven dividends, aggregating \$2,518,620. Like the Central, of the same county, the Cliff was opened on a fissure vein, the productive capacity of which eventually reached an end; but while it did last it was a valuable and profitable mine.

An atmosphere of additional and romantic interest attaches to this venerable old property, for around it are woven with striking realism the intensely interesting plot and story of the Copper Princess, written by Kirk Monroe.

The most easterly point on the Keweenaw Peninsula upon which any mining is now being done is at the old Clark Mine. Originally this property was mined for copper, but it has long since ceased to be. Recently it has come into the hands of a French syndicate, under whose management it has been re-opened as a manganese mine. Its manganese deposit is one of the richest known. To-day manganese is considered very valuable in the process of steel-making, and the large steel manufacturing companies will be the purchasers of the ore, it being an excellent substitute for carbon. The deposit on the Clark is found in a fissure vein varying from three and one-half to four feet in thickness. The vein has been traced three-fourths of a mile to Manganese Lake. The greatest supply of manganese in the United States comes from the Michigan iron mines, where it is found associated with iron, and the ore is known as manganese ore.

Here our tour of the North Copper Range comes to its natural termination, for we have reached the uttermost point to which the receding waters of Lake Superior have laid bare the secrets of its bed of ages. The writer is conscious that many things of interest and perhaps not a few of importance have been either entirely overlooked or too passingly mentioned. We are apprehensive lest we may have been presumptuous to think of compressing the history of so great and important a country into the necessarily limited space of a magazine article, when a volume could hardly do it justice. To do it at all was rendered possible only by the aid of the excellent compilation of Michigan Mining and Mineral Statistics made by Mr. James Russell, of the *Marquette Journal*, whose exhaustive and reliable report as Commissioner of Mineral Statistics of the State of Michigan has placed the mining industry of that state under a debt of gratitude which it can never discharge.

We have endeavored to describe at least in a measure the exceeding richness, the splendid resources, the gigantic development and abundant material prosperity of this entire country, and where space permitted have at least briefly touched upon the marvelous beauties of its climate and the picturesque grandeur of its scenery. But the story of the Lake Superior Copper Country is incomplete without some mention of the elegance and refinement and the elevated morality that predominates among all its people. Every element of their sturdy character, all the best influences of church and religion, the manifold advantages of schooling and education, the strong example of their wholesome and happy domestic lives have combined to secure to these people forever and in an uncommon degree all the blessings and happiness that must ever flow from great public and private purity of life.

Wonderful as is the history that the past fifty years have made for this richly favored country we seem unable to escape a vague and undefined sense that we have traversed over ground which will become the future theater of still greater marvels. The Lake Superior Copper Country is really yet in its infancy. What wonders it will disclose to the world when it shall have reached the zenith of its glory is at present a veiled mystery. But as its revelations of the present have already forever dispelled the doubts and misgivings of an earlier generation, it is not unlikely that in time to come it will not fail to realize all the splendid dreams and high expectations of its faithful believers of to-day.

THE COPPER RANGE RAILROAD.

In describing the many valuable properties and industries which are rapidly developing in the Copper Country, let us not forget one of the most important enterprises which has ever

been undertaken in that region for many years. We refer to the Copper Range Railroad. This line has justly been termed by the people of the country through which it runs, "The Pride of the Upper Peninsula."

Although the Copper Range Railroad is in its infancy, so to speak, yet it certainly is a very sturdy youngster. Since the laying of the first rails to the driving of the last spike, which was of copper and symbolical of the line, it has been a favorite. The object of the construction of the road, to develop the vast mineral lands along the South Range and to serve the properties thus opened by excellent railroad service, was progressive, its scope tremendous, and reflects much credit and public spirit upon its promoters. And even at this writing, it has been successful to a remarkable degree. With the coming of the Copper Range, Houghton, which apparently had fallen into a Rip Van Winkle sleep, became aroused, and began a new era. The village was rejuvenated and as its business grew, demanded better buildings, better thoroughfares and a better condition of affairs in general. Old residents were astonished, --but at once fell into line. The boom wave had struck them. It was thus, in perhaps a lesser degree, with the villages of Hancock, Lake Linden and Calumet. They had been given a new lease of life. Public attention was at last turned toward the Copper Country; mines were springing up; fortunes were being made. The tide had turned.

But we have strayed from our subject. Beginning at Houghton, the Copper Range Railroad extends forty-one miles southward through virgin forest and mineral territory to Mass City, its southern terminus, where it makes connection with the Chicago, Milwaukee & St. Paul Ry. It also makes connection with the Mineral Range R. R. at Peppard, about a mile north of Mass City. At Belt, three miles north of Mass City, is where the old Belt Mine is located. Exploratory work is now being carried on at the Belt by parties from Houghton, supposedly in the interest of the Standard Oil Co., and there is but little doubt but what the Belt Mine will soon be opened up. Here also is where the Adventure Branch joins the main line. The Adventure Branch is a newly-built spur to the Adventure Mine and Greenland, of three miles in length. The Copper Range has a long-time contract with the Adventure Copper Company and by January, 1902, expect to haul 1,500 tons of rock daily to their stamp mill. This, coupled with the very heavy passenger and freight business from the Village of Greenland, a prosperous and growing town, will give the road a comfortable traffic from the south.

There is a rumor afloat, and it has been generally accepted of late, that surveying parties are now working in the interest of the Chicago & North-Western Ry. between Watersmeet and Mass City, and we would not be greatly surprised if, in the near future, connection was established with the Copper Range at Mass City. Of course, there is no way to verify this rumor, yet at the same time there is usually "fire where there's smoke." With the extension of the Copper Range to Calumet, twelve or fifteen miles north of Houghton, and which is now an assured fact, there is but little doubt but what negotiations will be entered into between the C. & N-W. and the Copper Range, which will undoubtedly result in an amicable alliance and the running of through trains from Calumet to Chicago and vice versa via the Copper Range line. In the event of this coming to pass, the freight and passenger traffic of Northern Michigan would almost be revolutionized, as the North-Western would then have the direct route and short line to Chicago.

At Painesdale Jct., the Painesdale Branch extends towards the south to Baltic, Trimountain and Painesdale, where are located the Baltic, Trimountain and Champion Mines. These mines have long-time contracts with the road and but a short time will elapse before the railroad will start to haul their rock to the stamp mills located on the shore of Lake Superior. The other branch, known as the Lake Shore Branch, also extends from Painesdale Junction to its terminus, Freda, the Champion mill site. The Trimountain and Adventure mills are also located on the line within a short distance from each other. This branch is twelve miles in length. The Baltic and Atlantic stamp mills are situated in close proximity to the road, and the



THE METROPOLITAN BUSINESS COLLEGE, MINNEAPOLIS.

A SUCCESSFUL COLLEGE.

The idomitable energy, push, and enthusiasm of the management of the Metropolitan Commercial College at Minneapolis has placed that institution in the front ranks of leading colleges in the Northwest. From a small beginning three years ago, this college has made steady advancement of the substantial order, until now its excellent qualifications, facilities, and introduction of new "innovations," improvements and thoroughly modern equipments, make it a popular school for technical and business training. It has outgrown its old quarters in the Reeves Building, on Nicollet Avenue, and now occupies larger quarters in the Minneapolis Trust Company's building, corner of Fourth and Hennepin, occupying the third and fourth floors. The course of study at this college is high grade and strictly private. Attendance is limited, though there is a seating capacity for two hundred students, nearly that number being now listed for this session. It is this college that has in use one of the largest journals for the benefit of its students, similar to those used in the large Eastern colleges. It is worth the while of any one to visit the handsome and cozy rooms of this institution, and to see the neatly arranged furniture and appliances for the comfort and convenience of the students. The catalogue for the season of 1901 is a work of art and replete with information concerning the Metropolitan Business College. Not only is much credit due to President Langum, but to the faculty and students alike, for the uniform success and splendid standing which this college enjoys.

passenger traffic has already assumed large proportions. A year ago the Lake Shore was but a bleak wilderness. Now, as the visitor climbs the bluff overlooking the great inland ocean, Lake Superior, where a most sublime view may be obtained of the great fresh water lake, he pauses awhile to ponder over its future. With a thrill he recognizes the fact that it *has* a future, and the shrieking of the locomotive tearing its way through the woodland reminds him forcibly that his railroad is largely instrumental in giving it one.

The road-bed of the Copper Range R. R. is in excellent shape and is laid with Illinois Steel Co. No. 7506, A. S. C. E., 75 lbs. to the yard. Superb equipment is furnished the public; the cars of the most modern make and the coaches (Pullman Co., builder) make riding a luxury. Mammoth Baldwin engines are used, with the exception of the new passenger engine, this being a Schenectady of the most approved type. The passenger and freight traffic on the road is exceedingly heavy and the future of the road is indeed bright.

The scenery along the line is something not to be overlooked. In the innumerable lakes and rivers adjacent the finest of trout fishing may be found, and excellent deer and partridge hunting is found in season.

The United States Express Company operates over the line. Altogether, with its up-to-date management and the unequalled service extended its patrons, the Copper Range Railroad very ably carries out its sobriquet, "The Pride of the Upper Peninsula."

DO YOUR TEETH NEED DOCTORING?

People who live in the hundreds of small towns and villages reached by this magazine frequently have need of more skillful dental work than their local dentists are able to do—perhaps from lack of instruments and other facilities as well as from want of broader professional knowledge. One's teeth should never be tinkered with; they require the best treatment that human skill can give them. When anything special is

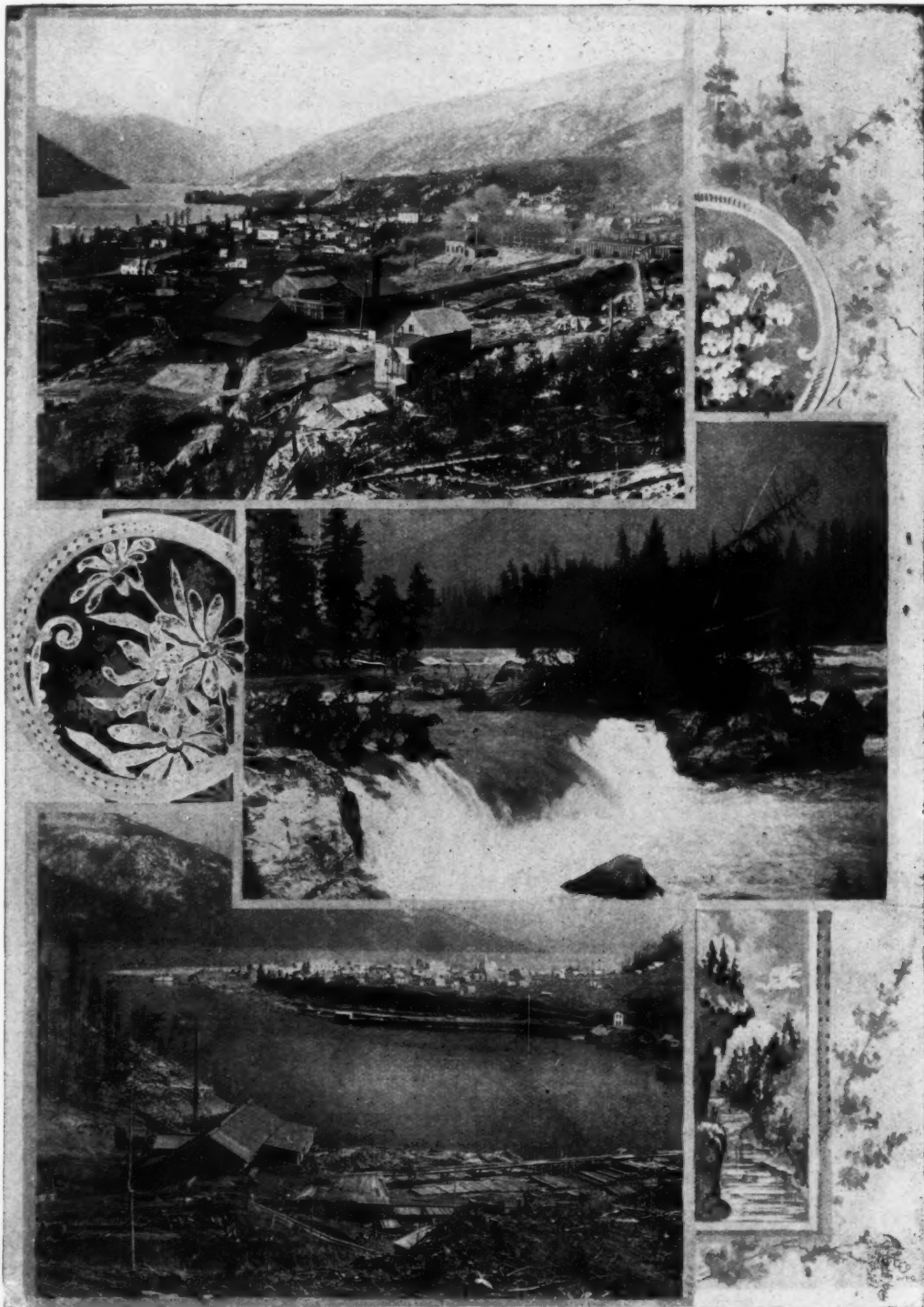
needed in dentistry it is much better to wait until visiting St. Paul, where such a dentist as Dr. B. C. Cornwell can be consulted. A very brief stay in the city would enable a person to have their teeth attended to properly. Dr. Cornwell, whose well-equipped office is at 410 Chamber of Commerce building, diagonally across the street from the Ryan Hotel, at Sixth and Robert streets, is reasonable in his charges, and brings into his business that skill and experience which characterize leading practitioners. He does every kind of dental work, is a graduate in the regular course, the post-graduate courses, and also of a medical college of the first rank, and is thoroughly reliable in every way. No one will be disappointed who deals with Dr. Cornwell, whose professional card will be found on another page.

CONQUERING LOFTY PEAKS.

Edward Whymper, the British mountain climber, intends to spend the summer with the Swiss guides among the Rocky mountains of Canada. He will endeavor to ascend a number of peaks that have not yet been climbed, and he has particularly in view Mount Assiniboine, a fine peak about twenty miles south of the Canadian Pacific Railroad. It is nearly 12,000 feet high, bears a remarkable resemblance to the Matterhorn and is apparently inaccessible on all sides. Several attempts to ascend this mountain have failed. Professor Charles E. Fay of the Appalachian Mountain Club says that in this region, within twenty-five miles of the Canadian Pacific Railroad, there are at least a dozen peaks whose ascent is likely to be extremely difficult. He speaks of Mount Assiniboine as offering a problem apparently more difficult of solution than was the Matterhorn before Edward Whymper discovered its secret in 1865.

A HANDY MAP.

Albert M. Powell, a well-known land man, with offices at Devils Lake, North Dakota, has distributed a comprehensive and handy pocket map of Ramsey County, North Dakota, with his compliments. The map shows the railroads being built, the new towns and postoffices, etc.



THREE BRITISH COLUMBIA SCENES.

IN THE TOP PICTURE IS SEEN THE CITY OF NELSON; THE BEAUTIFUL KOOTENAY FALLS IS THE SUBJECT OF THE ILLUSTRATION IN THE CENTER, WHILE THE LOWER PICTURE SHOWS THE CITY OF KASLO.



The erection of a number of beet sugar factories in the Northwest is being seriously considered by the railroads. These factories have up to the present time been good paying investments. The reason the railroads are partial to the industry

The financial statement for the entire Great Northern Railway system, which will appear in the Great Northern's annual report, is as follows

Gross earnings	\$30,564,386.96
Operating expenses	\$17,298,683.39
Taxes	997,798.97
	<hr/> 18,296,482.36

Income from operation.....	\$12,267,904.60
Other income	1,619,775.36

Total\$13,887,679.96

Operations for the year show that gross earnings increased \$1,653,597.70 over the figures of \$28,910,789.26 for the year ending with June, 1900. The year's earnings surpass by \$5,546,483 those of the year closing in 1898, which were \$25,017,903.



PRESIDENT C. S. MELLEN, OF THE NORTHERN PACIFIC RAILWAY COMPANY.

is because the trade connected with the same adds materially to the freight receipts. It has been estimated that the average beet sugar factory creates \$30,000 per annum extra revenue for the railroad. The Great Northern Railway is figuring on building a factory somewhere on its line in Minnesota, while the Soo has quietly been conducting experiments for the past year. A beet sugar factory is being planned at Oakes, North Dakota, and an effort is being made to establish a plant at New Prague, on the Minneapolis & St. Louis road. There does not seem to be much trouble about raising the necessary capital for establishing a beet sugar factory. The fine showing made by Western factories has induced Eastern capital to seek investment in the new ventures. Two of the Northwestern factories in contemplation have already been offered one-half of the necessary funds by Eastern parties. To properly equip a sugar beet plant of good capacity takes about \$500,000.

Newspaper correspondents at the National Capital are devoting much space at present to the subject of irrigation, and all of the papers in the United States have turned their editorial eye on this favorite Western topic. The question of irrigating the vast arid West is of paramount interest; the value of a solution of this problem cannot be estimated. So far irrigation has been most successfully established in many of the arid sections of the West, and hundreds of square miles of territory, before desolate, have been brought under cultivation in this way. "Cultivated country means a demand for farm implements, and a large increase of population," says the *Portland Oregonian*. "Increase of population means a demand for the necessities of life. Many necessities and most of the luxuries of life, and a large part of the agricultural machinery of the country, are made east of the Mississippi River. Hence irrigation means a growing flood of Eastern supplies to Western markets. Again, irrigation means wonderful production; hundreds of carloads of

high-priced fruits, ready for shipment each year, from tracts that were poor sheep pastures before. The East wants these carloads of fruit, Europe wants them, and across the country for thousands of miles the railroads carry them. Hence irrigation means two long lucrative hauls of freight, the supplies West and the products East, and the dividends of thousands of stockholders in the East and West alike reap the benefits. There are many other benefits from irrigation, but these are enough. Irrigation is not a sectional matter; it is a great national question."

* * *

This magazine will publish in the near future an illustrated article on West St. Paul, which, we believe, will be read with much interest by many of our readers. The possibilities of West St. Paul as a manufacturing center have never been quite appreciated by capitalists, and it will be the purpose of this article to deal comprehensively and fairly with this subject. The article, or rather articles, will be written by prominent West St. Paul business men and also by officials of the different railroads interested in West St. Paul.

* * *

The aim of THE NORTHWEST MAGAZINE is to encourage Northwestern development, settlement and enterprise. The needs of the West are more enterprising people to take advantage of the opportunities open to every one, and more money with which to develop the natural resources of the country. These people and money can only be attracted to the West through *legitimate advertising*. For twenty years THE NORTHWEST MAGAZINE has worked along these lines. Thousands of towns and hundreds of different sections in the great Western territory have been given publicity in these columns. And of the thousands of settlers and hundreds of investors whose attention was directed Westward through our efforts, not one ever complained that we ever said too much about the West. Our "sticking to facts" has given this magazine a prestige that we are pardonably proud of. When a prospective settler or investor reads an article in THE NORTHWEST MAGAZINE describing some town, city, county or state, he knows he is getting the facts—the *truth*. As Abraham Lincoln once said: "You can fool some of the people all of the time, and all of the people some of the time, but you can't fool all of the people all of the time!" Only honest, legiti-



GENERAL PASSENGER AGENT F. I. WHITNEY, WHOSE SPEECH ON "OUR TRADE RELATIONS WITH THE ORIENT" CREATED WIDESPREAD INTEREST.

mate publications can meet their paper bills year in and year out. A glance at a newspaper directory five years ago and at one of the present date will prove this. And so, while the scores of little, inflated, self-important "boom" journals spring up, mushroom-like, and collapse like a punctured toy balloon, the old, reliable NORTHWEST MAGAZINE still shows up each month brighter and fresher than ever. We shook hands with the old pioneers across the Rockies when the thought of a railroad between St. Paul and the Pacific Coast was as bizarre a dream as a trans-atlantic air-ship line. Their interests have always been ours. And with the steady progress of this wonderful portion of the United States THE NORTHWEST MAGAZINE has kept pace. From a little eight-page sheet printed in a dingy office in New York on a small press, it has developed into as handsome and modern a publication as is read anywhere.

* * *

General Passenger Agent F. I. Whitney, of the Great Northern Railway, is not only a railroad man of recognized ability, but also a close student of subjects of international scope. In his recent speech delivered before the Bankers' Association of Minnesota, at Duluth, Mr. Whitney delivered as able a paper on our trade relations with the Orient as has ever been read. "Whether American goods will sell in China depends simply on whether they are brought favorably to the notice of the Chinese and whether our manufacturers will seek to adapt their goods to the special market in China," said Mr. Whitney. "If the products of our farms, mills and workshops once catch the fancy of the Chinese, we need look no further for a market. And if we are wise our merchants, manufacturers and millers will begin upon the work at once. Establish agencies, learn the language, adapt the products, the style and the method of handling same in packages to conform to the likes of the Chinese, or in other words study to please them and respect their prejudices. We stand well with China. The Chinese recognize that we have no desire to obtain a portion of their territory or see it divided among others. Our commercial prospects are likewise augmented. The opportunity for the increase of the American trade in the Orient is present. Shall we accept it? Opportunity is relentless; it must be taken at its flood. What formerly seemed almost the backyard of the world is now to become the very center of interest. Japan bids fair to rival the great island kingdom of the West. China is to be the goal of this new activity, and China will be perhaps forever too remote to render practical overland communication with Europe. Traffic with the Orient will be seaborne. The greater United States is China's nearest Western neighbor. China's needs are our opportunities. It is a market without bounds. Four hundred millions of people are living within an area one-half that of the United States.



THIRD VICE PRESIDENT J. M. HANNAFORD, OF THE NORTHERN PACIFIC RAILWAY.

They are using the rudest of agricultural and industrial methods; they are without means of inter-communication; their mines are rich, but valueless, because of crude and imperfect means of mining. Will we awaken to the fact that China is a market worth striving for? By many rights the Asiatic market belongs to us. Seattle is nearer than Marseilles to Hong Kong by more than 2,000 miles, and the old conditions of shipping are now so modified that the great width of open ocean presents no hindrance to us. Long distance ocean transportation has found practical solution in the building of large steel-hulled steamers. In the competition between the Suez route and the direct route across the Pacific, Europe will be handicapped by the canal tolls. If the opportunity is promptly seized upon by the United States, says the commissioner of navigation, the changed conditions may be made almost immediately the source of enormous additions to our national wealth. Surely the new century dawns for America under most auspicious conditions. Who can foretell our future development and position among the nations of the world?"

* * *

The annual report of a great railroad system is always interesting reading. It is one way of feeling the pulse of the commercial and financial world. A railroad's earnings indicate the prosperity of a country. When times are good, railroad earnings increase; when times are bad, the railroads suffer correspondingly. The past year has been one of unprecedented prosperity with the railroads of the United States. Almost all of the roads show big increases in their earnings, while some lines that have never before shown any figures on the right side of the ledger are now surprising their stockholders by their satisfactory reports. One of the greatest railway systems in America is that known as the Northern Pacific Railway Company, the fifth annual report of which was recently issued. The total mileage operated by this company on June 30, 1901, was 4,989.13. The gross earnings of the road up to that date for the year 1901 were \$32,560,983.58, an increase of \$2,539,665.86. The net earnings for 1901 were \$15,920,840.01, an increase of \$294,150.60.

Legislation in Washington incorporated the Northern Pacific Railroad Company in 1857. The actual work of building the road was begun in the summer of 1870 at a point about twenty miles west of Duluth, called Thompson's Junction. The road was finished to the Red River of the North in 1871, and twenty-five miles were built north from the Columbia River toward Puget Sound. In 1872 the road was open for business from Duluth to the new town of Fargo, on the Red River. Then was leased the entire line of the Lake Superior & Mississippi Railroad, running from Duluth to St. Paul, followed by the purchase of nearly all the steamboat lines on the Columbia, Snake and Willamette Rivers and on Puget Sound, which gave to the Northern Pacific Railroad Company clear possession of all the transportation facilities then existing in Washington and Oregon. The road was built across the then unsettled prairies of North Dakota as far as the Missouri River, and halted at the new town of Bismarck. The short line from the Columbia River to Puget Sound then followed. The Puget Sound division had been completed from Kalama to Tacoma, then a small town at the southern end of Puget Sound. The next construction undertaken by the company was the building of a branch from tidewater at Tacoma up to the Puyallup Valley to the coal fields in the Cascade Mountains. In 1877 provision was made for direct connection with St. Paul by the construction of a short link of road in North Minnesota from Sauk Rapids to Brainerd. By 1878 the general business conditions of the country had so far improved that it was determined to make an effort to raise money for continuing the construction of the main line of the Northern Pacific westward from Bismarck. This was done by issuing bonds secured by a mortgage on the Missouri division from the Missouri River to Glendive, on the Yellowstone. The Missouri loan was quickly taken in 1879 and the work of construction advanced rapidly. Due to the hostility of the Sioux Indians, surveying and grading were carried on under the protection of troops. Under President Billings, the fifth president of the company, preliminary work had been begun on the Pacific Coast. Instead of beginning the construction at Portland, the chief city of the Northwest, a serious mis-

take was made by commencing it at the junction of the Snake and Columbia Rivers, where the town of Pasco now stands. Henry Villard was elected to the presidency of the road in 1882 and his administration was marked by an epoch of rapid construction and general expansion. Late in the summer of 1883, the long lines of the Northern Pacific, advancing from the East and West up the two slopes, met at the summit ridge of the Rocky Mountains. The completion of the road was celebrated by an excursion that was without parallel for its magnitude and magnificence in the history of railroad building. During the administration of Robert Harris, of New York, as president of the Northern Pacific, occurred the construction of the Cascade Branch of the line, which reduced by over 100 miles the distance to points on Puget Sound. Falling off in immigration to the Northwest, decreased land sales, poor crops, all hastened by the general financial crisis of 1893, forced the Northern Pacific into insolvency. Receivers were appointed. This receivership was finally terminated in the summer of 1896. A foreclosure suit was had, and the entire property of the Northern Pacific Railroad Company was sold to a new corporation called the Northern Pacific Railway Company. Since then the Northern Pacific has flourished until it is now one of the greatest systems in the world. The building of the Northern Pacific was coincident with the development of our entire Northern belt of territory, extending from Lake Superior to the Pacific Ocean. When the road was started in 1870, there were probably not ten thousand people living in the country it was to traverse. Now there are millions. All this enormous settlement of a recent wilderness can be credited to the building of the Northern Pacific.



A conspicuous example of St. Paul enterprise in the manufacturing department of trade and commerce is seen in the immense plant of Foot, Schulze & Company at the corner of Third and Wacouta Streets, St. Paul. Like everything else in the Great Northwest, the business of this company is conducted on a large scale. Big men are at the head of it, and big results have followed as a matter of course.

It was not so very long ago when Eastern shoe factories laughed at the notion that there would be any competition in this territory by the establishment of Northwestern shoe houses. In less than a quarter of a century Foot, Schulze & Company have gradually built up a business which is now selling Minnesota footwear in many states in the Union.

A long and quick stride, isn't it? And why has this firm been so successful? Because when the name of Foot, Schulze & Company is stamped on a pair of shoes it means that the footwear is the best that skill, long experience and established reputation can produce. All Foot, Schulze & Company shoes are made with the utmost care. Only the best workmen are employed—only the choicest materials are provided.

The products of Foot, Schulze & Company are as varied as they are superior. There is a large constituency to supply, and the needs of this constituency are widely different. Out of this factory any boot and shoe dealer can stock his store complete. Fine shoes for men, elegant footwear for women, and neat and durable children's shoes are made. The company also makes a specialty of heavier and stronger boots and shoes for farmers, miners and lumbermen, and these goods are famous throughout the West and even in far-off Alaska.

A perfectly equipped factory, a wide reputation for turning out only the best, a growing trade are the elements of prosperity which greet Foot, Schulze & Company this season.

In The Business World



CHANGE OF TIME.

The Soo Line has issued a folder announcing a change of time, effective October 13. On that date the "Imperial Limited" will be withdrawn from service and the "Pacific Express" resumed, leaving St. Paul at 9:05 a. m. and Minneapolis at 9:45 a. m., daily. The "Pacific Express" is a through palace and tourist sleeping car train running daily. The Soo Line's passenger department has issued many attractive pamphlets during the past season, including books on hunting, fishing, and tropical trips, a North Dakota land folder, a Wisconsin and Michigan land folder, a "Twentieth Century Calendar" and a folder entitled, "Openings for Busy People." W. R. Callaway, who is one of the best known and most popular railroad men in the West, still handles the reins in the general passenger agent's seat.

AN OLD MILWAUKEE FIRM.

A firm that has been in the business of manufacturing iron work for breweries and malt houses for the last forty-five years is that of W. Toepfer & Sons, of Milwaukee, Wis. This firm has succeeded, by superior machinery, in turning out first-class work in this line. W. Toepfer & Sons first introduced the close perforated iron and steel, which is preferred to wire cloth of any kind, having a perfectly smooth surface. The firm's improvements have been introduced and tested by several well known firms in the United States, giving perfect satisfaction in every respect wherever in use. Wenzel Toepfer is the inventor of the first successful dumping kiln floor. The firm, whose offices are at 76-88 Menomonee Street, Milwaukee, Wis., is always prepared to furnish estimates and information promptly to parties wishing them.

A FAMILIAR NAME.

In this age of keen competition it behooves a business house to keep its goods continually before the public, and the house that spares no expense in the continual advertising and exploiting of its wares is the house that wins success. There are many shoe manufacturers in the United States, but how many peo-

ple can name more than a very few of them? The houses whose names are familiar to us are the ones who sell the most goods, and, therefore, the ones who do the most advertising. The name "Mayer" is synonymous with shoes. The F. Mayer Boot & Shoe Company, of Milwaukee, years ago adopted an energetic plan of advertising and has adhered to this ever since. Hardly a month passes but this concern sends some sort of attractive pamphlet to its customers. These little booklets are gotten out regardless of expense and are the apogee of the printer's art. It is difficult to forget "Mayer Custom Made Shoes" and the fact that they "wear like iron."

"OLD HINKEL."

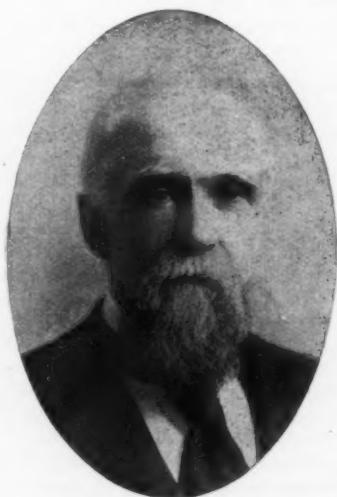
Everybody is beginning to know the name of John G. Hinkel, or "Old Hinkel," as he is called by his host of friends and acquaintances. Mr. Hinkel has so thoroughly advertised himself and his business that it seems superfluous to mention that he is a broker and distributor of cigars. As he says: "Old Hinkel's cigars are always right and have been for fifty years." In addition to being the personification of geniality and generosity, Mr. Hinkel is respected in the business world where his honest methods and keen foresight have won for him a position which he has just cause to be proud of. Mr. Hinkel is distributor for the Northwest and the Pacific Coast of the cigars from the factory of Jacob Langsdorf's Sons, of Philadelphia and Key West. They are the Buddha, a clear Havana; Flor de Langsdorf, Leon de Cuba, Langsdorf's Monopole and Kossuth, "The Nickel Wonder." Now that Mr. Hinkel has thoroughly introduced his goods to the good people of the Twin Cities, he is starting new fields to conquer, and, ere long, the cigar dealers of the West and the Pacific Coast will have a chance to get acquainted with perhaps the most unique and popular cigar broker in the West, "Old Hinkel."

WILL NOT ALWAYS BE CHEAP.

The article which appeared in the last issue of this magazine on the Red River Valley has aroused considerable interest among our readers. Those people living in the Eastern states are particularly interested in cheap lands in the West. The Elwood Land Company, whose offices are in the Scandinavian American Bank Building, St. Paul, are among the most prominent land companies in Minnesota handling Red River Valley lands.

"We are offering a large list of the best lands in Red Lake, Polk and Marshall Counties, Minnesota, at prices that will dou-

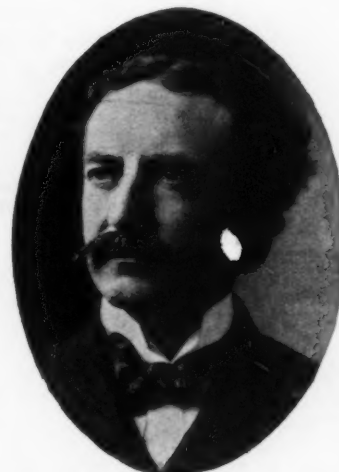
WESTERN MEN OF THE HOUR



ROBERT A. KIRK, OF THE WHOLESALE HARDWARE FIRM OF FARWELL, OSMUN, KIRK & CO., ST. PAUL, RECENTLY ELECTED PRESIDENT OF THE NATIONAL HARDWARE ASSOCIATION.



ELBERT A. YOUNG, OF THE WHOLESALE DRY GOODS FIRM OF FINCH, VAN DYCK, YOUNG & CO., ST. PAUL, PRESIDENT OF THE NATIONAL ASSOCIATION OF CREDIT MEN.



THEODORE L. SCHURMEIER, OF THE WHOLESALE DRY GOODS FIRM OF LINDEKE, WARNER & SCHURMEIER, ST. PAUL, RECENTLY ELECTED A MEMBER OF THE BOARD OF REGENTS OF THE UNIVERSITY OF MINNESOTA.

ble in less than three years," said Mr. Elwood recently to a NORTHWEST MAGAZINE representative. "The Red River Valley is destined to become one of the most thickly settled and prosperous sections in the United States. It has the conditions that are always sought by careful homeseekers and investors—rich soil, good water, ample rainfall, gently rolling surface, adaptation to diversified farming, competing railroads to nearest and best markets, cheap fuel, certain crops and a splendid location. The lands are rapidly being bought up, and within the course of two or three years it will be impossible to get, at the low figure now predominating in the Red River Valley, holdings in the area of good tillable agricultural lands."

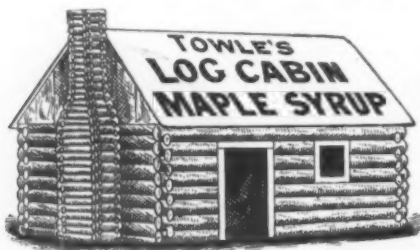
A VALUABLE MEMENTO.

The October number of the *Book of the Royal Blue* which is published by the general passenger department of the Baltimore & Ohio Railroad Company, is devoted as a memorial to President McKinley. It contains a composite editorial carefully constructed from editorials of leading newspapers; a composite sermon from all the noted divines, and a composite eulogy from the many touching tributes of prominent citizens. Through this most unique method the *Book of the Royal Blue* has collected the beautiful thoughts which were expressed and put them together in such a form as to make them a most valuable memento; in fact, the most valuable memento of its kind that is within the reach of the public. Mr. McKinley's last speech at Buffalo and appropriate poems complete the number. Of the many articles and special editions eulogizing the martyred president which have been published, none are more valuable and interesting than the October issue of the *Book of the Royal Blue*.

The Baltimore & Ohio Railroad is known the world over through its vigorous advertising methods. B. N. Austin, who is a Western man, having at one time been the assistant general passenger agent of the Northern Pacific Railway, is general passenger agent, and since his connection with the Royal Blue line has made himself not only respected on account of his energy and originality, but also is very popular in the Eastern railroad world.

A FAMILIAR TRADE MARK.

One of the best known trade marks used by concerns to impress their goods upon the mind of the public is the log cabin picture which for many years has been used by the Towle Maple Syrup Company. Towle's Log Cabin Maple Syrup is



famous throughout the country, and the picture of a log cabin always reminds one of the syrup which bears its name. The popular Towle's Log Cabin Maple Syrup is manufactured in Vermont, the home of the maple, while the enormous business of the company is transacted from the general offices in St. Paul. Towle's Log Cabin Maple Syrup was awarded first prize and a gold medal at the Paris Exposition for absolute purity and richness of flavor.

A BOON TO LOVERS OF THE PIPE.

The *Cigar and Tobacco Journal*, speaking of the Paine pipe, says: That it does not take people long to get onto a new thing is shown by the marvelous demand for a new pipe which is the invention of a Duluth man. Paine's Perfect Pipe was only put on the market last spring, and yet it has already been introduced all over the United States as well as in Alaska, Mexico,

South America and Great Britain. The points claimed for the pipe are: While lighted the inner bowl can be raised to clean or remove obstructions without emptying or wasting the tobacco. No nicotine can enter the stem, as it is all deposited in the smoke chamber surrounding the tobacco bowl. No center draft to leave unburned tobacco around the sides. Openings for smoke opposite the stem, so that smoke passes around bowl before entering the stem, insuring clean, sweet smoke. Pipe never burns out, because extra tobacco bowls may be had at a fraction of cost of pipe. The introduction of the pipe was first made through the medium of mail order advertising, and there soon began to be an inquiry for the pipes at stores, people having heard of them through friends who had ordered by mail. Those dealers who are not slow to recognize a good thing began to put them in stock, and the sale has become general. Smokers who cannot find them at the retail stores, however, can get a pipe by writing Franklin D. Paine, patentee and sole manufacturer, Duluth, Minn.

BUSY SEASON AHEAD.



The well-known firm of Patterson & Stevenson, of Minneapolis, engaged in the wholesale line of hats, caps, gloves and furs, are now preparing for the busiest spring season known in their line for many years. Their salesmen are out with the natty, new creations in spring wear, that excel all attempts in their line in the past. The business of this firm in the last two years has been such as to tax them to the

limit, and never in the history of the house has it been known to enjoy the increase of its output and the confidence displayed in its reliability. It is one of the best known houses in the West, and the "Patterson" Hat is one of the most popular of men's headgear on the market.

LANDS FOR HOME SEEKERS AND INVESTORS.

The cream of all available farming lands now on the market is located, without doubt, in the states of Minnesota, North Dakota and Wisconsin. These lands are now being sold at a price which is remarkably low considering the location of the lands, their easy access to markets and their wonderful soil and climatic conditions. Considering the favorable conditions attached to the lands in the three states named and the demand for the same by settlers from the East, it is safe to say that it is only the matter of a very short time when the prices will rise and the demand will be greater than the supply.

The Central Minnesota Land Company, of which H. S. Judson is president and H. R. Spurr secretary, and whose main offices are at 162 East Third Street, St. Paul, control the sale of thousands of acres of excellent farming lands in Wisconsin, Minnesota and North Dakota. The company is interested in lands in the famous Red River Valley of Minnesota, known throughout the United States as the "Bread Basket of the World." In the September issue of the NORTHWEST MAGAZINE we published a comprehensive and handsomely illustrated article on this favored section.

The Central Minnesota Land Company also has on sale 20,000 acres of hardwood timber lands in Barron and Washburn Counties, Wisconsin, within seventy-five miles of St. Paul, Min-

neapolis, Duluth and West Superior. These lands are close to schools and good marketing towns and are located on the Chicago, St. Paul, Minneapolis & Omaha road.

In addition to its main offices in St. Paul, the Central Minnesota Land Company have offices in the following towns: 243 First Avenue South, Minneapolis; Morris, Stevens County, Minnesota; Wylie, Red Lake County, Minnesota; Crookston, Minnesota, and Shell Lake, Washburn County, Wisconsin.

THE MATCH BUSINESS.

The *Timber Trade Journal*, which is the best possible authority, says that 13,000 acres of timber are denuded every year to supply matches to the American public. This industry consumes 200,000,000 feet of timber annually.

This is a startling statement, but an absolutely true one. And under these circumstances, to the average man it seems strange that a company has not been organized to make matches on the Pacific Coast, before this, simply because the timber is available.

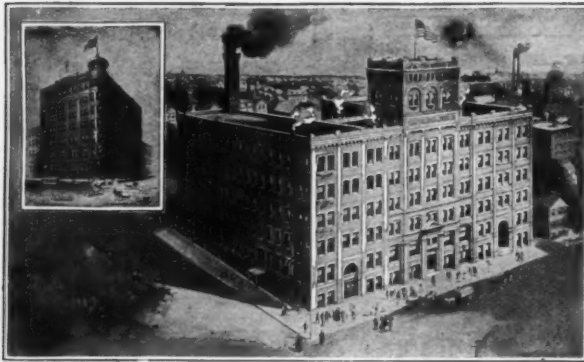
one of the investments that will pay big returns, for it is not founded on a hole in the ground or chimerical suppositions. The only question involved is: "Can the machine make the matches?" Those who have put money into the enterprise have no doubts on that score.

BREAD AND BUTTER STATE.

The Chicago Northwestern line has issued a neat folder for distribution. It relates to the dairy interests of Minnesota. These are set forth in detail and accompanying the reading matter is a map which shows the location of every creamery and cheese factory in the state. Minnesota has demonstrated that in dairy products she is pre-eminent. There were 528 creameries and 60 cheese factories in operation during 1900. These received milk from 331,512 cows, producing 972,799,299 pounds of milk. The sum paid farmers for milk and cream was \$6,959,914.

The total number of pounds of creamery butter made in 1900 was 75,000,000, which at an average price of 15 cents a pound would net the manufacturers \$11,250,000. The amount of butter made on the farms by churning during the year is esti-

Mayer's School Shoes Wear Like Iron.



HERE WE CARRY THE STOCK.

HERE WE MAKE THE SHOES.

ADDRESS DEPT'S FOR OUR BOOKLETS OF LADIES' AND MEN'S FINE SHOES.

If you want a reliable line of footwear, with which you can increase your trade, buy

Mayer's Milwaukee Custom-Made Shoes.

We make all grades and styles on good fitting lasts that are up-to-date. Our specialties are

Men's and Ladies' Fine Shoes and Oxfords,

but we also make an extremely good line of heavy and medium weight every-day shoes from Oil Grain, Kangaroo, Kip and Calf. Send for samples or write us and we will have our salesman call on you.

F. MAYER BOOT & SHOE CO., Mfgs., MILWAUKEE, WIS.

There is another feature about match making that also commends itself—a man can make good wages manufacturing by hand.

But the great bugaboo is the Diamond Match Company. Using the latest and the best machinery it is regarded as a formidable trust, when in reality it is not. Foreign matches find a large market here, and there are factories all over the country doing a large business notwithstanding the Diamond people. And now a new and vigorous competitor has arisen in the Washington Match Company of Seattle. This company has met every obstacle put in its way—and they have been many—and has reached a point where it is about to contract for a building and machinery, and in a few months will be manufacturing matches. The strength of this company lies in its machine, which is capable of turning out 960 matches to fifty by the best machine extant. This is no idle claim, but one that is capable of being fully demonstrated and one that is giving the Diamond Match Company a great deal of uneasiness.

The Washington Match Company, aside from the inventor, who has been a long while in the match business, is composed of Washington men—men of standing and reputation. They have fought a hard fight, but victory is now theirs. The treasury stock, which they placed at \$1.00, will be worth par (\$5.00) in a very short time, and the man with money to invest—not speculate—who does not at least look into the Washington Match Company is doing violence to his own interests. It is

estimated at 16,000,000 pounds, the value of which would be \$2,400,000, making the total value of the butter product \$13,650,000.

Of the eighty-two counties of the state only eleven in the northern portion are without creameries. Freeborn county has twenty-nine. The others average about nine each.

In 1884 Minnesota won the sweepstakes at the New Orleans exposition; in 1893, first prize at Chicago; in 1896 gold and silver medals at the national creamery contest; in 1897, a gold medal and silver cup. In 1884, when Minnesota took first prize, there were less than twenty creameries in the state. In 1898 Minnesota scored first premium at the national buttermakers' contest and four first prizes at the Omaha exposition. In 1899 first prize was won at Sioux Falls, and in 1900 the national buttermakers' convention awarded first prize to the North Star State.

AN OLD AND SUCCESSFUL BUSINESS COLLEGE.

One of the oldest and most successful business colleges in the country is the Oshkosh Business College of Oshkosh, Wis., a card of which appears elsewhere in this issue. The institution was founded thirty-four years ago. Prof. W. W. Daggett, the proprietor, is a thorough instructor, and a man of the highest personal reputation. Graduates of this school are found everywhere. Positions await them. Bookkeeping, shorthand, typewriting and many other useful branches are taught practicably by an able faculty, and the tuition fee is very low. For particulars address the proprietor at Oshkosh.

OPPORTUNITIES

When writing to advertisers under this head address by NUMBER, care of THE NORTHWEST MAGAZINE, Cor. Sixth and Jackson Sts., St. Paul, Minn.

Advertisements under this heading 3 cents a word.

MINNESOTA.

DO YOU WANT A GOOD INVESTMENT FOR your money? We have 10,000 acres on the Duluth Short Line of The Northern Pacific Railway (the old St. Paul & Duluth Railroad), which we offer for a short time only, 10,000 acres in one lot, at \$3.50 per acre; \$1 an acre down and balance on easy terms. This is good land, in a well settled country, close to town and railroad. Good roads, schools, churches, etc., and would retail now at \$5 to an \$8 acre. Address for full particulars: S. Conday, Manager, P. O. Box 2535, St. Paul, Minn.

A SPLENDID OPPORTUNITY FOR INVESTMENT in gilt edge St. Paul city property. Very choice business location, with building, next largest department store in St. Paul, on 99 year lease. Fixed charges for ground rent, taxes, etc., \$1,100 per annum; gross income from rents (can be increased) \$2,400 per annum. For full particulars, address No. 110.

2,000 SHARES STOCK IN AMERICAN MINES Development Co., Minneapolis. 15 cents per share. Address Harrison Thompson, Sioux Falls, S. D.

NORTH DAKOTA.

A BEAUTIFUL ONE-HALF SECTION OF LAND in La Moure County, North Dakota, near county seat; living water; meadow; fine for diversified farming and stock. \$5.50 per acre to close estate. Half cash and balance on time if desired. A fine investment. No. 100.

WISCONSIN.

1,280 ACRES GOOD LAND IN WASHBURN County, Wis.; living water and succulent grasses; \$2.75 per acre; excellent for stock and diversified farming; only fifty miles from Duluth, the best market in the Northwest. Half cash and balance on time if desired. No. 102.

HANDSOME AMERICAN LADY, INDEPENDENTLY rich, wants good, honest husband. Address, Erie, 198 Washington St., Chicago, Ill.

OKLAHOMA OFFERS OPPORTUNITY

For wealth producing farms among good neighbors, excellent schools and churches, and ample transportation and trading facilities, the

SANTA FE ROUTE

traverses the richest portion of the new territory. Populous and growing towns along the entire route. Write for copy of 100 page descriptive pamphlet entitled the

TRUTH ABOUT OKLAHOMA.

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The Copper Country Favorite Beer

is That Made by

**THE BOSCH
BREWING CO.**
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A. F. HIETKAMP, Secretary.

Agencies at Houghton and Calumet.



39c Genuine Taylor Combined Barometer and Thermometer

These instruments are made by the firm that makes the instruments of the U. S. Weather Bureau. Each one is tested for accuracy before being sent out and are guaranteed to be absolutely correct. Size 12x 3 1/4 in., hard maple polished frame. They will accurately forecast every change in the weather (besides showing temperature) and will save you many dollars every year by giving you notice of approaching storms. The regular price is \$1.00, but for a short time we will mail to any address on receipt of 39c. Order Quick.

G. WALLBLOM FURNITURE & CARPET CO.
400-410 Jackson Street, ST. PAUL, MINN.

GET POINTERS

On land values in all parts of Iowa, Minnesota, North Dakota, South Dakota, Wisconsin, by subscribing for the NORTH-WESTERN LAND GUIDE, published monthly. Sample copy 10 cts.; \$1.00 per year. Indispensable to the land seeker, dealer, owner, investor, farmer, or any one at all interested in land values.

WOODMAN PUBLISHING CO.

839 Lumber Exchange, Minneapolis, Minn.

SORE EYES Dr. ISAAC THOMPSON'S EYE WATER

ROMANCE OF THE RICHEST COPPER MINE.

This is, in brief, the story of the richest copper mine in the world. The mine is the United Verde, located near the little town of Jerome, Arizona. It is owned by Senator W. A. Clark of Montana, and earns \$12,000,000 a year profits, equal to 6 per cent on an investment of \$200,000,000.

Clark bought the mine from two women for \$200,000. This was the way it came about: Two ranchers in the Verde Valley located the property. They sold out for \$10,000 to William Murray and former Governor Tritttle of Arizona. One of the ranchers promptly proceeded to drink himself into delirium tremens with his share of the money. Murray and Tritttle induced two New York women of independent fortune to back them to the extent of \$200,000 in the development of the mine. This money was nearly all spent and the prospects were blue when the miners struck a pocket of silver ore that paid \$80,000.

Murray died, and Tritttle failed to get any more profit out of the mine. It was abandoned for several years. Clark with his foreman came down from Montana looking for mining property. They saw the Verde, liked it, went to New York, found the women only too glad to sell their stock for its face value, and got possession.

Clark proceeded to develop the mine scientifically, and soon found that he was "right on the ore chute," as miners say. Then he built a hundred-ton smelter, and set about taking out the ore that has made him the copper king of the world. There are but 3,000 shares of stock in the mining company and Senator Clark owns them all.

IMPORTANCE OF IRRIGATION.

A recent dispatch from The Hague indicates the enterprise of the Hollanders in the matter of land reclamation. The government, it is stated, has introduced a bill in parliament for the reclamation of 113,666 acres from the Zuyder Zee, at an estimated cost of 95,000,000 florins. The scheme will add 2,000,000 florins, or about \$800,000, to the budget annually for the next fifty years.

One of the Presidential party, on the recent Western trip, made the observation upon his return to Washington that the irrigation sentiment in the West was something of an astonishment to all, and that he noticed that any allusion to the subject caused greater applause and enthusiasm than mention of the nation's triumphant arms or our expanding commerce or prosperity, one or all together.

The erection of the Nile dam by the British Government will form a lake with a capacity of over a billion tons of water. When the sluice gates are open, while the Nile is at high water, something like five million tons of water will rush through every hour.

Irrigation is coming rapidly to the front in the region of light rainfall in Western Canada. Some 660,000 acres of land were reclaimed during the past year, and canals were constructed to the length of 525 miles.

\$6.00 TO BUFFALO PAN-AMERICAN & RETURN \$6.00

Via the Nickel Plate Road, Tuesdays, Thursdays and Saturdays, with limit of 5 days from date of sale, good in coaches only; 15 day tickets at \$13.00 for the round trip, and 20 day tickets at \$16.00 for round trip, good in sleeping cars. Three through daily trains. For particulars and Pan-American folder of buildings and grounds, address John Y. Callahan, General Agent, 111 Adams St., Chicago.

BUFFALO PAN-AMERICAN TICKETS

Via the Nickel Plate Road, \$13.00 for the round trip, good 15 days; \$16.00 for the round trip, good twenty days. Three daily trains with vestibuled sleeping cars. Meals in dining cars, ranging in price from 35 cents to \$1.00. Address John Y. Callahan, General Agent, 111 Adams St., Chicago.

Are you satisfied with your position? Why not write for our prospectus? We assist students in securing positions. Curtiss Business College and Shorthand Institute, Boston Block, Minneapolis, Minn.

Duluth, South Shore & Atlantic Ry.

WHY DO YOU RENT A FARM?

You can own one in Northern Michigan or Wisconsin on the Duluth, South Shore & Atlantic Railway for one year's rent.

Thousands of acres of fertile lands open for settlement.

THERE ARE GOOD OPENINGS for farmers, laborers and manufacturers.

THERE ARE GOOD SITES for saw mills, grist mills, pulp mills and tanneries.

SPLENDID OPPORTUNITIES for stock raising, dairying and diversified farming.

WORK can be found on farms, in numerous mills and on the rivers in summer and during the winter in the woods.

SOIL is good.

WOOD AND WATER are plentiful.

STOCK RAISING AND DAIRY FARMING. The abundance of water, the certainty of grass and other food for cattle and natural shelter make this a natural stock country.

SMALL FRUITS. Small fruit culture has proved remarkably successful.

GRAIN. Wheat, rye, oats, barley, peas, flint corn and buckwheat can be raised in profusion and the hay crop is most abundant.

HOME MARKETS. The mining and milling towns of this region furnish a splendid market and at best prices for all farm products.

HOMESEEKERS' EXCURSIONS can be arranged at any time. One fare for round trip.

For further information apply to _____

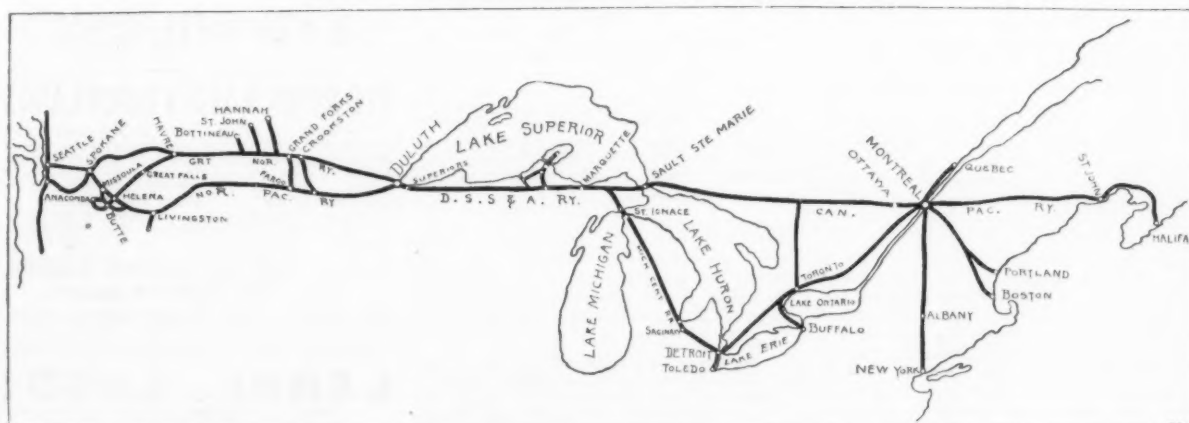
E. W. MacPHERRAN, LAND COMMISSIONER, MARQUETTE, MICH.



Duluth, South Shore & Atlantic Ry.



*The Straight-Away Line Between
The Great Northwest and the East.*

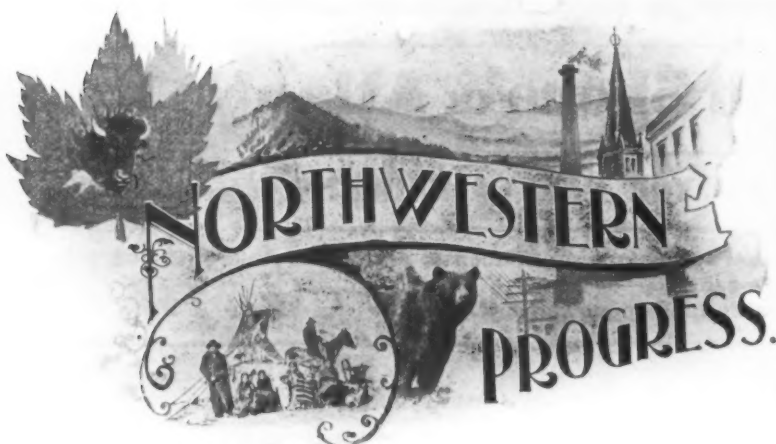


Quickest and Shortest Route via Duluth-Superiors to Lower Michigan, Eastern Canada, New England and New York.

Solid Vestibule Trains. Pullman Palace Sleepers. Dining Car Service, a la Carte.
Tickets on Sale With All Responsible Ticket Agents.

FOR PARTICULARS ADDRESS _____

M. ADSON, General Agent, Duluth, Minn. or GEO. H. HIBBARD, G. P. A., Marquette, Mich.



WISCONSIN.

Oconto is to have a tannery.

The Wisconsin Elevator Company, of Robertis, will erect a large elevator at Hammond.

Work is about completed on the new bottling works of the Leidiger Brewing Company at Merrill.

A company at Milwaukee has been organized to manufacture mining machinery. The capital stock will be \$600,000.

Two Rivers is at present enjoying the most prosperous era in its history, \$200,000 being spent in improvements.

Excavation has begun for the foundation of the \$150,000 College of Agriculture at the State University, Madison.

Citizens of Mellen are highly elated over the fact that iron ore has been found in paying quantities about seven miles west of town.

The Eagle Horse shoe Company of South Milwaukee, whose factory was destroyed by fire, will begin rebuilding at once. The buildings and machinery for this plant are to cost \$150,000.

A bed and mattress factory is to be established in South Superior. The new concern will be known as the South Superior Spring Bed and Mattress Company, and will begin active operations at once.

The handsome new structure of the Lincoln County Bank, at Merrill, has been completed, and the owners are now doing their banking business in the new rooms. A. H. Stange is president and owner of the banking institution.

The dairy industry in Wisconsin is steadily increasing in extent and constantly improving in the character of its products. The state not only contains 50 per cent more cows than ten years ago, but they average better in breeding and in economic milk producing quality. The total value of the butter product of Wisconsin for the year 1900 is at least \$16,000,000 in round numbers. The 1,800 cheese factories of the state manufactured during the present year 60,000,000 pounds of cheese, of which 44,000,000 pounds were cheddar cheese and the remaining 16,000,000 pounds were Swiss, Brick and Limburger. Wisconsin ranks second in the list of cheese producing states, New York being first, and no other state approximating the product of either. The output of our factories for the last twelve months was sold at an average of 100 per pound, or \$6,000,000.

Never in its history has Racine experienced such rapid growth as during the present year. Improvements are visible in every section. Close to 350 residences, public and factory buildings

have, or are being, erected. Four miles of street paving have been laid. Fifteen miles of gas mains and several miles of water mains have been put in. Miles of street railway tracks have been torn up and sixty-foot rails put down. Lake shore protection was built and scores of highways have been brought down to grade.

MINNESOTA.

Goodhue will have a new hotel.

Biscay will have a new elevator.

A furniture factory will be started at Waterville.

There is talk of a village water works at Buffalo.

A \$14,000 school house will be built at Bird Island.

Cambridge will have water works, as will Rvere.

The new linseed oil factory in Duluth is ready for operation.

St. Olaf College, at Northfield, will have a splendid library building, the gift of Consul Halle Steensland, of Madison, Wis.

It is announced that the Canadian Northern will build a branch south to Ely, Minn., forty-five miles, to connect with the Duluth & Iron Range.

Among the business institutions in Stillwater that have undergone extensive changes the past season is that of the Joseph Wolf Company, where improvements costing about \$10,000 have been made in their brewery.

The Edison Electric Light and Power Company plans to augment the strength of the Apple river electric plant and the Cedar street transforming station in St. Paul in such manner that its capacity will be the greatest of any plant west of Chicago.

If present plans are carried out, as outlined, Mankato will have a street railway system in operation before the year is out. It will be operated by a new system, the stored power of superheated water. This system is not yet in operation anywhere, and Mankato will be the first city where it will be put into practical use.

The Northern Pacific has closed a deal for the sale of a large block of land in Pine county, part of the land grant of the St. Paul & Duluth road. The purchaser was a syndicate, represented in St. Paul by J. A. Nowell, and about 200,000 acres were involved. The price varied with the land, but something like a half million dollars was the consideration, making an average of \$2.50 per acre.

CARPENTER, HUGGARD & TRUAX,



What makes us so happy?
Well tell you the facts.
We got a Happy home
From Carpenter,
Huggard & Truax.

RED
RIVER
VALLEY
LANDS
A
SPEC-
IALTY.

We handle large and small tracts of land, both prairie and timber land, suitable for

agricultural purposes, stock farms, ranches, and colonization purposes. We get you reduced rates to go and see the land and show it to you free, returning railway fare to purchasers.

WRITE US AT ONCE.

ST. PAUL OFFICE,

188½ East Third Street,
Near Union Depot.

CROOKSTON OFFICE,

Palace Hotel Corner,
Cor. Main and Second Sts.

REMEMBER IT'S THE

Yellowstone Valley!

The great stock-feeding center of the Northwest. Some good improved sheep and cattle ranches for sale with or without stock. The finest all-round agricultural county in Montana is YELLOWSTONE. Well irrigated by co-operative ditches owned by the farmers themselves.

BETTER TO BUY HERE
THAN RENT ELSEWHERE.

I have these lands. Write to me. I will cheerfully furnish reliable information.

I. D. O'DONNELL, BILLINGS, MONT.

RED RIVER VALLEY FARM LANDS

In Manitoba, on either side of the Red River. Rich alluvial soil. This district immediately adjoins the great wheat fields of Dakota and Minnesota, and is as good in every respect, while prices are at present 50 per cent to 75 per cent less. Many of the successful farmers of Dakota and Minnesota are buying lands in the Red River Valley in Manitoba. Prices are steadily advancing. For information apply to

Red River Valley Land Investment Association,
Offices, GRAIN EXCHANGE BUILDING,
Post Office Box 458. WINNIPEG, MAN.

LAND! LAND! LAND!

We have 250,000 acres of choice RED RIVER VALLEY LAND for sale cheap and on easy terms. Prices range from \$12 to \$20 per acre. For further particulars and excursion rates on all railroads, write to or call on the

IOWA LAND OFFICE,

JOHN H. BOYD, Crookston, Minn.

The Red River Valley counties are overrun with hordes of prospective purchasers of the State's fine wheat lands, which will be sold this month. In a dozen towns in the northern counties livery rigs are at a premium and the hotels and farm houses are full of homeseekers. State Auditor Dunn will sell at auction this month 90,000 acres of choice land in the twelve counties of the Red River district. The State laws provide that not more than 100,000 acres of State land may be sold in one year, and from the apparent demand the tracts selected for sale this fall will bring high prices. The auditor is sending out of the State on the application of homeseekers an average of fifty descriptive lists of the tracts per day.

IOWA.

A basket factory has been started at Dubuque.

A new mattress factory is now established in Fulton.

A brick and tile factory is being started at Armstrong.

Dubuque will have a pearl button factory, employing 150 men.

Work on the new line of the Chicago & Great Western from Anthony, Iowa, will be commenced within the next two weeks.

An Odd Fellows' building is to be erected in Grinnell. It will be 44x75, two story, stone, with store rooms on the first floor and a lodge room above.

The regents of the State University will ask the coming legislature for an appropriation of \$200,000 for the erection of a College of Medicine and probably \$40,000 for the Civil Engineering Department for a building and apparatus.

Near Rockford, Floyd County, coal has been discovered on Lime Creek, and three distinct veins are shown by outcroppings varying in thickness from two and a half to four feet. The depth of the lowest beneath the surface is about fifty feet, and the quality is between the Hocking Valley and the best grades of Iowa soft coal.

NORTH DAKOTA.

A village jail is being erected at Osnaprock.

A strong flow of natural gas has been struck five miles from Linton.

The Russell-Miller Milling Company will erect an elevator at Jamestown.

Trent is to have a new elevator, which will make four concerns buying grain there.

Fargo has complied with the conditions named, and the money tendered by Mr. Carnegie for a library is now available.

The people of North Dakota will be gratified at the awarding of several medals to the North Dakota exhibit at the Pan-American.

On the Adams farm, in Richland county, there was 1,400 acres of corn raised this year, and next year this will be increased to 2,500 acres.

Fifteen carloads of cattle were shipped from Bismarck recently. This is one of the largest shipments made from Bismarck in years.

A mass meeting of farmers is called at Kenmare next month to organize a stock company to build and run an elevator and a flour and feed mill.

Arrangements are practically completed for the erection of a flax fiber mill in Devils Lake. The mill will cost \$40,000. It is expected that the factory will be in full running order next month, with a capacity of sixty tons of flax straw per day.

S. O. Edison, owner of the fiber fuel plant at

McCanna, states that there is no question about the success of the undertaking. The manufacture of fuel from straw, Mr. Edison thinks, is now beyond the experimental stage and is an assured success. While there was not enough of the product manufactured last season to warrant figures being given as to the cost, he is certain that it will be low enough to make the fuel as cheap as any other, and, he believes, considerably cheaper. The plant has started again, and this year, as the supply of straw will be unlimited, it is the expectation to manufacture the fiber in unlimited quantities. If the present plant proves the success anticipated, it is the intention to erect similar plants at different points throughout the Northwest. Mr. Edison, who is a cousin of Thomas Edison, the electrical inventor, has been working on the scheme for several years.

SOUTH DAKOTA.

Sioux Falls will have a malting plant.

The cost of the new building at St. Martin's Academy, Sturgis, will be \$20,000.

Track is now being laid on the Minneapolis, St. Paul & Sault Ste. Marie extension from Wishak, N. D., to the Missouri river in South Dakota, seventy-one miles.

Track is being laid on the Burlington branch to Calena, and trains will be running by Nov. 1. It is said that an extension will be built beyond Calena to Mumford's sawmill, three miles.

The building of a large smelter and a new building for the School of Mines makes an important epoch in the history of Rapid City. Already business of all kinds has been greatly stimulated and a sharp advance in real estate. Rapid City has always had many advantages over other towns of the Hills, being the only trading place of any importance along the entire eastern slope of the Hills.

Negotiations for the building of a railroad to connect Minneapolis and St. Paul with the Black Hills are far advanced. The road will be built from Aberdeen to Rapid City in the Black Hills, crossing the Missouri river at Pierre, if the present negotiations reach a favorable conclusion. The road will be 295 miles long, and it will probably be known as the Twin City, Pierre & Black Hills road.

MONTANA.

Excavation has been started for the new city hall at Billings.

Sand Coulee will be a field of operation for making fire bricks in the near future.

Plans have been completed for the new school houses at Meadville and Walkerville.

A company has been organized at Butte, with a capital stock of \$500,000, to develop the new oil fields near Dillon.

In the near future a woolen mill may be established in Billings. Such an institution has long been wanted there.

Thirty-five thousand acres of Custer county land has passed into the possession of George Burt of Terry, a large stock owner.

The Burlington's extension from Toluca to Cody, Wyo., was opened for business to Corbett Station, Wyo., 122.7 miles from Toluca, on Oct. 2.

The Northern Pacific has awarded the contract for building the extension from Twin Bridges southeast to Alder Gulch, Mont., 19½ miles, and grading is under way.

The largest cyanide plant in Montana will be located in the Marysville district. The plant will treat about 150,000 tons of tailings and afterwards the immense ore bodies in the Empire mines.

The electric power line from Canyon Ferry to Butte has been completed to Jefferson City. Power

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will be furnished practically all the Amalgamated properties in Butte. It is possible that the line will be extended to Anaconda to furnish power for the new Washoe plant.

The enlargement of the Helena cracker factory sufficient to practically double its present output, is the plan now under consideration by the officials of the American Biscuit & Manufacturing company, which is the official designation of the trust controlling the Helena factory.

Both the Great Northern and the Northern Pacific roads expect to receive a great increase to their traffic through an extension to be built by the former road into the Crow's Nest coal fields. The extension will connect the coal fields with the smelters at Butte and adjacent points. The extension will enable both roads to procure their fuel supplies for their western divisions at much less expense than at present.

There are 79 fire insurance and 19 life insurance companies doing business in Montana. Risks written in fire insurance in 1900 were \$45,001,910; gross premiums received, \$925,339; losses paid, \$525,254; losses incurred, \$487,026, and amount at risk, \$20,360,168. The 19 life insurance companies did the following business: Insurance in force Dec. 31, 1899: Total, \$26,715,526; insurance written, \$6,155,612; premiums received, \$962,311; losses incurred, \$222,824; insurance in force Dec. 31, 1900, \$29,863,479.

In the irrigable portions of eastern Montana, where alfalfa is extensively cultivated, there is an excellent opportunity to make a winter stake by feeding lambs for the late winter and early spring market. The prospect for a good all-year market for fat stock of all classes is regarded as exceptionally promising. Growth lambs are not high at present. They may be bought for \$1.50 to \$1.75, and if fed on alfalfa will almost certainly return a nice margin of profit to the feeder sometime during the interval between this date and next April.

A new Helena industry is the manufacture of woolen blankets from Montana wool. The new blankets are made in whites, grays and brown, and excel by far anything in the blanket line ever brought into Montana, and are in striking contrast to some of the all wool blankets manufactured in the east and shipped west. Every thread in the blankets is wool, and Montana wool. The wool now being used is from the sheep of the Dunbar Brothers, of Three Forks, in Gallatin county, who have the honor of raising the first wool manufactured into blankets by the first woolen mill in Montana.

The ore production of Montana is reported as having broken all records in 1900. The Anaconda Company has largely increased its output, and during 1900 carried forward extensive improvements in the concentrating, smelting and electrolytic plants. The year 1900 has been a prosperous one for the Boston & Montana. The total receipts from the sale of copper, blue stone and the precious metals were \$1,342,577. The net income was \$13,242,577. The net income was Butte & Boston Company resumed control of its smelting plant in February of last year, and during the year made the largest production in its history.

The announcement was recently made by President Hill of the Great Northern that he would in the near future begin the work of equipping a portion of the Cascade division for the adoption of electric motive power, instead of locomotives. The investigations that have been made for the Great Northern into the matter of substituting electric for steam power for railroad use have been under the direction of J. N. Hill, the eldest son of J. J. Hill, and cover a period of over three years. The matter was first brought to the elder Hill's attention by the reports of his civil engineers to the effect that it might be found impracticable to operate trains through the Cascade tunnel by means of coal-burning locomotives on account of its extreme length and the fact that there is no means of effectually ventilating it without going

to the expense of installing and operating air motors. But the investigations that have been made into the matter have convinced the officers of the road from the president down that there is a great saving to be made in operating trains by water power conveyed in the form of electricity. This much is patent from the fact that the original plans for the adoption, and use of this new means have been greatly extended. When the plan was first broached it merely contemplated the operation of trains by means of electricity through the tunnel, a distance of about two and a half miles. But now the announcement is made that the electric improvement will be applied to that portion of the road extending from Leavenworth on the east side of the mountains, to Skykomish on the west side, a distance of sixty-six miles. And it is understood that if the electric motors are the success it is now anticipated, they will be immediately operated from Everett on the west side to Wenatchee on the east side, a distance of 141 miles, and eventually extended to include the entire mileage system. The portion of the road chosen for the first application of the experiment in electric power is one of the most difficult and expensive portions of the road to operate on the entire system. It lies through the wild and rugged Cascades, the grades are very heavy on both sides of the mountains, there are many miles of snowsheds and every winter there are numerous slides of earth and rock which come down from the steep mountain sides to cover up the tracks and endanger the operation of trains. There is one important reason why the Great Northern desires to secure and adopt some new and cheaper motive power for this portion of its system, and that is because of the expense of coal, which gives both the O. R. & N. and the Northern Pacific a great advantage over the Great Northern in the expense of handling freight on its coast division. The advantage of the O. R. & N. lies in its gravity route down the Columbia river from the Rocky mountains, and that of the Northern Pacific lies in the fact that it mines its own coal at Roslyn at a cost to the company of from \$1 to \$1.25 a ton, while the coal of the Great Northern costs about \$2.75 for the ordinary product, which is used on the greater portion of the division, and for the Crow's Nest Pass coal, which is used on all trains through the tunnel, the cost is much greater. For about thirty miles of the mountain climb on the Cascade division each loaded train running over it requires the assistance of a helper engine in addition to the regular engines, and as all of the mountain trains are hauled by the big mountain climbing engines, the coal consumption is something enormous, amounting to upwards of 250 tons a day, or nearly a million tons a year. At a difference of \$1.50 a ton in favor of the Northern Pacific it will be readily seen that the older road has on account of coal supply alone a considerable advantage over its newer rival. As the water power for the creation of the electric power for the operation of the trains under the new system will be taken from one or more of the many streams which exist in abundance along that portion of the system, the innovation contemplated will reduce the coal bills of the division very greatly, if not eventually doing away with them entirely. Just which of the streams the power will be taken from, or whether one or more, has not as yet been definitely announced, but the engineers have surveyed and minutely examined the Skykomish river on the west side of the summit and several of the streams on the east side, and one or more of the most convenient will be selected. Should the work on the proposed improvement be begun at once it will require fully eighteen months to install the appliances sufficiently to do away with the steam locomotives.

WASHINGTON.

A \$40,000 hotel will be erected at Aberdeen.

Work on the new court house at North Yakima will begin soon.

The Northern Pacific has about 4,000,000 acres of unsold land in Washington.

The Seattle Board of Education contemplates spending \$250,000 for new buildings next year.

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CROOKSTON, MINNESOTA.

A syndicate will probably be organized for the establishment of a large lumber mill at Port Angeles.

The erection of a \$500,000 woolen mill at Seattle is contemplated. Seattle may also have a glass factory.

Fruit growers near Centralia expect a good fruit crop. The strawberry crop is unusually good, and the vegetable crop will also be large.

Every industry is busy at the present time at Everett. The mills other than shingle mills, which are closed owing to the strike, are running overtime, and millmen say they have lumber orders ahead for many weeks.

Conditions among the manufacturing industries of Tacoma are improving in a remarkable manner, and the present year will show results that cannot fail to be gratifying. At present it is more difficult for the factories and mills to fill their orders than to obtain them, and in many places additional help is being employed and more facilities added.

The Northern Pacific extension from Hoquiam, northwest about 100 miles to the Strait of Juan de Fuca, has been surveyed as far as the Quinalt Indian Reservation, about 28 miles, and fourteen miles from Hoquiam to the Humtutup river are under contract. The Green River branch is being extended from Gould, Wash., north five miles, and grading is in progress. The branch which it is proposed to build from Mabton, Wash., south-east, will be but nine miles in length.

Plans are now fully matured for the improvement of the entire water front in Seattle between Yesler way on the south and Madison street on the north. The alterations include the tearing out of practically all the smaller docks, slips and warehouses which now line the front between the streets named, and the substitution of great, modern piers and freight houses which, extending out into deep water, will accommodate the largest ships which enter Puget Sound.

One of the best manufacturing enterprises that ever located in Snohomish county is the brick, tile and crockery plant of Clough, Wiley & Stevens, that broke ground at Snohomish for their kilns and the other necessary buildings on the county road west of the Clay addition, where the firm has purchased three and one-half acres of land. The buildings are to be erected at once, and will cost about \$5,000, to be supplanted later by other buildings to the extent of \$50,000 as the business develops.

Tacoma's shipbuilding interests are coming to the front with rapid strides. Contractors will begin this week driving 2,000 piles on the east bank of the Puyallup river on the Tacoma tide flats for a great extension of the yards of the Tacoma Shipbuilding Company. This extension will be large enough to permit of five keels for vessels being laid at one time. The company already has a fine site and work is in progress on two large vessels, but with the increased demand for ocean craft the builders must provide greater facilities for building ships. With the new improvement the shipyard will be in shape to greatly increase the number of men in its employ.

OREGON.

Grading is in progress on an extension of the Nevada-California-Oregon, from Termo to Madeline, Cal., fourteen miles, and tracklaying has been commenced. This is a part of the proposed extension from Termo to Lake View, Ore., which it is proposed to complete next year.

The W. & C. Railroad Company will build a new \$85,000 bridge across the Umatilla river at Pendleton to replace the present structure. Besides that, the road contemplates spending a considerable amount of money in betterments on the line between that place and Hunt's Junction.

The product of the Logan cheese factory at

Oregon City has increased to 1,800 pounds per week in one past month. Secretary O. D. Robbins says that the increase in the output is due to the fact that a number of the farmers, who furnish milk, have increased the number of their cows, and the pasturage is now excellent.

At La Grande, Ore., a company was recently formed for the purpose of doing preliminary work on an electric road connecting La Grande with the town of Cove, sixteen miles away. A trolley line over seventeen miles long now operates between Portland and Oregon City. Another line is projected between Milton, Oregon, and Walla Walla.

Hunsperger & Bohle, who have been developing a water power on Orofino creek, just above the town, will erect a 50-barrel gristmill here this year and expect to have it ready to grind this fall's crop. They have taken the water from the creek about a mile above the town, on the north side of the stream, and conducted it through an open ditch for a distance of 3,000 feet.

One of the largest deals in farm land in Marion county this season was consummated when the State Land Board sold to J. A. Sanquinet, of Elko, Nev., the A. Blosser farm, near Hubbard. This farm contains 245 acres, and is one of the best general purpose farms in the county. It includes a first-class hopyard of forty-five acres, and is supplied with modern improvements.

Mr. Sanquinet says that a number of other farmers in his section of Nevada, who have money to invest in farm lands, are thinking of coming to Oregon.

An interesting table is given, showing the hop production of the two states in 1900 by counties. The Oregon figures were furnished by the leading hopdealers of Portland, while the Washington figures were obtained from the State Commissioner of Labor. Although fewer counties of Oregon are devoted to the growing of hops, the output of the Willamette valley is shown to greatly exceed that of the western half of Washington. The total pounds, while the output of Washington is 598, product of Oregon for the year is 14,616,000 572 pounds.

Good progress is being made on the Fish Lake irrigation ditch, which starts at a point on Little Butte creek, about thirty miles from Medford. The ditch itself is practically completed and the remaining work to be done consists mainly of the construction of flumes. The company has purchased about 4,000 acres of land along the ditch, which will be for stock raising and the growth of alfalfa. The company states that by next May about 5,000 miners' inches of water will be put through the ditch for the irrigation of the Rogue River Valley.

IDAHO.

A trolley line is now in course of construction between Clearwater and Lewiston.

The Northern Pacific is making thorough work of their improvements between Kendrick and Volmer.

Lumbermen are interested in the report that the Northern Pacific is to build a branch line from Troy, Idaho, for the purpose of developing the white pine forests of that section of the state. The 60-mile branch planned would have tributary to it 1,000,000,000 feet of white pine lumber, and the Northern Pacific would secure a long haul to the lumber markets along the Missouri river. Minnesota lumbermen acknowledge the Idaho white pine to be very fine timber, far superior as a market product to the other timber of the western states. It has the advantage of being lighter in weight than most of the Coast timber and is bound to be a formidable competitor in the markets of the middle west.

The Sweetwater Power & Irrigation Company has purchased 174 acres of land in Sweetwater

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Nothing will please you more.

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canyon, surrounding the headgate of the company's main ditch and extending up the canyon for a mile. The land has many large springs on it, which the irrigation company will develop and thus probably double the water supply for their ditch and pipe line. The company now has seven miles of ditch and water line in operation, extending as far as Tammany hollow and carrying 2,000,000 gallons of water. The company has an investment of \$27,000. It is expected that the company will ultimately extend the pipe line to Lewiston, supplying the city with water and power.



MANITOBA.

Moosomin District's wheat crop will aggregate 2,090,000 bushels, an average of 22 bushels per acre.

The estimated results of this year's crop in four municipalities show that Virden County's wealth will be increased \$1,500,000. This magnificent country tributary to Virden is filled with thriving towns and prosperous farmers, due to twenty years of great progress. Eighty-five per cent of the wheat will grade No. 1 hard.

The crop of 1901 will be no unimportant factor in the history of Western Canada's development. While every year has seen a marked increase in growth and prosperity, the seasons of '97, '95, and 1901 represent the flood-mark of the spring tides of the progress of the West. In the two former of these seasons, the material advance almost equaled the luxuriance and strength of the natural growth. The next result of this year's operations, in farm, ranch, office and factory, promises to be no whit behind the most favorable of its predecessors. Every form of enterprise will share in the general prosperity. Every district will participate in the benefits lavished by bountiful nature, and reflect in unmistakable fashion the success that has rewarded the toil of its residents. In common with every other section of the province, that portion lying to the north and south of the main line of the C. P. R. for the last forty miles of its course in Manitoba has every reason to rejoice at the prosperity that will result from the harvest. Here, as elsewhere, all classes of men, and all branches of business, are beginning to reap the rewards of the most successful year in the history of the West. In the towns merchants have increased their stocks, in many cases by a hundred per cent, in anticipation of the biggest volume of business yet experienced; and every class of citizen is feeling the buoyancy and prosperity consequent on the abundance of the wheat harvest.

It is proposed to build a binder twine factory at Brandon. Brandon should be a good site for such an industry. There were imported into Canada last year (1900) 9,632,150 pounds of binder twine, worth \$866,892.00. In addition to this, 8,500 tons were manufactured in Canada. Six or eight thousand tons of this at least must have been used in Manitoba and the Northwest Territories. This year a great deal more will probably be used, and the amount used must increase yearly as the country settles up. The 900 tons which the Brandon factory proposes to manufacture is only a small proportion of the total amount required each year. The cost of transportation is an important factor. Every one who has had experience with freight rates knows that raw materials, being in a lower class, can be shipped at considerable less cost than manufactured articles. The binder twine has to get to Manitoba anyway, but in the case of the Brandon factory it comes all the way as raw material, saving, first, a shipment to the Eastern factory, and second, the difference in the cost of freight on raw material and on the finished article. This is not all, however. The wheat fields of Man-

itoba are much nearer the Philippine Islands than the home factories in Ontario and the United States. It would seem preposterous to think of raw material to make binder twine being shipped through Brandon to Ontario or the States to be manufactured and then shipped back to Manitoba to be used. Though this does not really happen, it is practically the same thing, for the manilla is shipped by boat around Cape Horn and up the Atlantic to New York, or some Eastern port, and from there by rail to the factories. The Brandon factory will get their supplies direct from the West, thus securing a second advantage over the Eastern manufacturer. There are over 1,500 subscribers on the company's register, who have taken from one to four shares each. The promoters of the Brandon Binder Twine Company propose to erect a twine factory having a capacity of three tons a day of ten hours, and to so construct it that in case increased capacity should be required the machines necessary to make it a five-ton factory can readily be added, and without any great additional expense. The equipment of the factory will be thoroughly modern and the machinery will possess all the latest improvements.

BRITISH COLUMBIA.

The interests behind the Great Northern Railway have secured terminals at Vancouver.

The Carnegie library building at Vancouver will cost \$40,000, and the equipment \$10,000.

Work has started on the new Great Northern line from Marcus, Washington, to Vancouver.

The Washington & Oregon Railroad Company, unless something unforeseen shall happen, will be ready to run trains into Vancouver by the first day of November.

Construction work has been commenced on the Great Northern branch from Jennings north along the Kootenay river to a point on the Canadian Pacific at Elke, B. C. The new line will reach the coal fields in the vicinity of Fernie.

The first eight miles of track on the Lardo branch of the C. P. R. has been completed, the rails laid and track ballasted, and track-laying begun on the second section. When this is finished it will bring the rails within thirteen miles of Duchesnay, at the foot of Trout lake.

The old lighthouse at Brockton Point, from which the beacon light has shone for the guidance of the ships that have passed in the night since the establishment of the city of Vancouver, will be replaced shortly by a fine new structure.

The management of the Anglo-Canadian Gold Estates Company is so well pleased with the results of the development work on the Seine River concession that it has decided to put in a ten-stamp mill. The ore in shafts, drifts and cross-cuts is of such high value as to justify this action.

The Victoria, Vancouver & Eastern Railway will be built as far as Midway, B. C., this fall. The route selected for the road that far is from Grand Forks to Midway via Phoenix. The surveyors practically have the route located as far as Oroville, and are now working from that point up the Similkameen.

Several hundred laborers have begun work on the proposed Great Northern railway extension from the Columbia River to Vancouver, and December will see the railway in operation west from the Columbia River sixty-six miles to Midway, B. C., as well as branch lines to Republic, Wash., and Phoenix, B. C., twenty and twenty-six miles long, respectively. The route extends from Marcus, Wash., to a point on the Spokane & Northern, at the confluence of the Columbia and Kettle Rivers, up the valley of Kettle River to Midway, B. C. The branch line to Republic, Wash., and Phoenix, B. C., will tap two of the richest mineral camps in the Pacific Northwest. The distance from Midway, B. C., to Vancouver, traversing the Okanogan and Similkameen district, is 335 miles.

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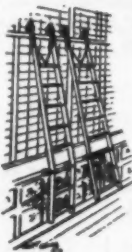


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But manufacturing an old staple product in a marvelously more rapid manner and economical cost; producing more than five (5) times the finished product in any given length of time than any "other best machine," and at one-fifth the cost for labor.

Our Match Machine

Makes a complete match, puts the match in box, wraps boxes in packages—1 dozen to 1 gross—and turns them out of machine ready to ship. Also, if desired, prints advertising card—name—on each and every individual match.

Capacity of Machine, Ten-Hour Run
4,000 Gross—150 in Box.
86,400,000 Matches.

By building machine double, at a slightly increased cost of single machine, double the finished product can be produced, and double the profit made.

THE FACTORY will be 200x200 feet and four stories, operating five (5) machines fully equipped. Other machines will be added as the state of trade will demand, and other factories added when necessary. The general manager, Mr. Lucius T. Holes, is a practical match manufacturer, and the inventor of our match machine. Letters—from the trade—which we have on file at our office, show more orders now on hand than the entire output of our factory.

The Business to be Conducted on a Cash Basis, Therefore no Losses to Sustain.—Profit Very Satisfactory.

LARGE DIVIDENDS. One machine—running 150 days in the year—will pay a dividend of \$1.12½ per share. Now remember we will have five (5) machines at work in our factory 300 days in the year, and it is quite probable that we will have to work double shifts of men at that. Now, just do a little figuring for yourself. A limited block of stock is on the market at one dollar per share, par value \$5.00. The money raised, that is, fund created by sale of stock, goes into machinery and factory, and the conducting of our match business. Stock will SOON be advanced to par value and shortly taken off the market altogether.

A Word to the Wise.

Call at our office at once, or see your broker, if you want the best investment stock on the market to-day.

Rooms 410-11 Luzon Building, Tacoma, Washington. Telephone, Main 375

Room 101 New York Block Annex, Seattle, Washington. Telephone, Main 792

ADDRESS ALL ORDERS FOR STOCK TO SEATTLE OFFICE.



A NEW JOAN OF ARC VERSION.

It is quite evident that some of the people near the city do not attend church regularly, says the Walla Walla Statesman. At an examination in a school not many miles away, a few days ago, the teacher asked a boy to write all he knew about Joan of Arc. He wrote as follows: "Joan of Arc was out in a ship when he was thrown overboard, and before he was drowned a shark swallowed him, and one day the shark swum away and come into land and shaked Joan of Ark up, and he was not the worst after it."

HIS SISTER DID.

The cross-examiner was a smart man, whose object was to disconcert the witness and discredit his testimony.

"What did you say your name was?" was the first question.

"Michael Doherty."

"Michael Doherty, eh? Now, Doherty, answer this question carefully. Are you a married man?"

"Oi think so, Oi was married."

"So you think because you got married that you are a married man, do you? Now, tell me whom you married."

"Who Oi married? Oi married a woman."

"Now, don't you know better than to trifle with the court? Of course you married a woman; did you ever hear of anyone marrying a man?"

"Yes. Moi sister did."

HOW WAR BEGINS.

Tommy was reading the war news. When he finished he came to his mother and said:

"Mamma, how do wars begin?"

"Well, suppose the English hauled down the American flag, and that the Americans—"

Here Tommy's father intervened.

"My dear," he said, "the English would not—"

Mother—"Excuse me, they would—"

"Now, dear, who ever heard of such a thing?"

"Tray do not interrupt."

"But you are giving Tommy a wrong idea."

"I am not, sir!"

"You are, madam!"

"Don't call me madam! I won't allow you!"

"I'll call you what I choose."

"I'm sorry I ever saw you! you are so—"

Tommy (going out)—"It's all right; I think I know how wars begin."

HE WANTED A WIFE.

A secret is being kept at the Walla Walla, Wash., telephone headquarters, declares the Walla Walla Statesman, and because there are a number of young women employed there some persons profess to regard the circumstances as marvelous.

Over at Rosalia there are a number of oil men whose impatient spirits will brook no delay. One of those individuals took possession of the Rosalia telephone office one evening recently, and made protracted efforts to open up conversation with a young woman of this city. The long-distance operator here was eager to help him, but the fair one could not be found. This fact was reported to the man at Rosalia.

"See if you can find her," he pleaded. "You see," he confided, "I want to propose to her, and—"

The most energetic messenger boy in town was dispatched to locate the girl who was to be given an opportunity to get married. Fate seemed to take a hand in the matter, for she could not be located. During the attempts to find her the long-distance line had got connected with the local line, and soon the Rosalia bachelor was talking to several "centrals" instead of to the long-distance operator.

"You're sure she can't be found tonight?" asked Rosalia.

"It seems so," answered a "central" noted for her dulcet tones.

"Do you know her?"

"Oh, yes, very well. You see, we resemble each other."

"Did you say you look like her?" queried the impatient wooer.

"Well, that is—um—yes, somewhat," was the succinct reply.

"Say, you'll do just as well as she would. Will you have me? You're losing a good thing if you don't." The oil man gave a synopsis of his personal appearance, his wealth, and his prospects.

"I don't want to get married," protested central.

"Well, time's money; so if you refuse, connect me with the next central in the shop."

His request was obeyed. Before he had done, he was refused by telephone four times by four different girls, yet his voice was as cheerful as at first. He had the pleasure of paying \$1.40 for his rejections, and now it is said the girl who could not be found has heard of the episode, and is sending back his daily letter unopened. Some of the telephone girls, however, concluded they might have been a little abrupt, and started an investigation. They found the man they had refused is worth a hundred thousand dollars, and is regarded as a prize in the matrimonial market.

"If I'd known that," says one of the girls, "I'd have answered 'Oh, this is so sudden,' and that might have delayed matters a while. It's pleasant to be engaged sometimes, even if you do not intend to marry."

TRAVELERS' HOTELS

"In the journey through life let us live by the way"

BILLINGS, MONTANA.

THE GRAND HOTEL,

GEORGE F. BENNIGHOFF, Prop.

Strictly first-class. Rates on application.

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THE BOZEMAN,

J. J. KELLEY, Proprietor.

Steam heat, elevator, electric lights, commercial ample rooms.

BRANDON, MAN.

GRAND VIEW HOTEL,

E. T. BOISSEAU, Proprietor.

Best accommodation and sample rooms for travelers. Rates \$2 per day. Conveniently located.

CLAYTON, WISCONSIN.

Hotel Clayton,

J. HENNEN, Proprietor.

First-class Accommodations.
Newly Furnished Throughout.

RATES: \$1.00 and \$1.25 per day.

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HOTEL POKEGAMA

DANIEL M. GUNN, Proprietor.

A LEADING HOTEL IN GRAND RAPIDS.

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PARK HOTEL,

PARK HOTEL COMPANY.

Only First-Class Hotel in the City. One Block from Depot. Rooms en Suite and with Bath. Large Sample Rooms Free. Cuisine Unexcelled.

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THE RAVALLI,

E. UNDERWOOD, Resident Manager. J. W. MEHARGUE, Manager.

Modern in all its appointments. Steam heat. Electric light. Return bell system. Hot and cold water throughout. Rooms en suite with bath. Wide porches. Large lawns.

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RANKIN HOTEL.

POTTS & READ, Proprietors.

Best Second-Class Hotel in Montana.
Electric Light and Steam Heat.

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CHRIS. A. MASON, Manager.

(Also Manager Miles City Hotel.)

THE HOTEL OF THE CITY. Steam heat, electric lights and call bells; artesian baths etc.

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upon THEIR MERIT

JOHN G. HINKEL,

BROKER AND DISTRIBUTER



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FOR THE NORTHWEST AND THE PACIFIC COAST.

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SAINT PAUL, MINNESOTA.

ST. PAUL, MINN.**HOTEL FOLEY,**

D. E. FOLEY, Prop.

Entirely new. Strictly up to date. Modern in every respect. Large office fronting on Jackson street. Well located, convenient to depots, wholesale and retail districts, car lines, State Capitol, theatres, etc. Rates, \$2.00 per day.

Corner Jackson and Seventh Streets.

ST. PAUL, MINN.**CLARENDON HOTEL,**

Corner Wabasha and Sixth Sts.

P. J. GIESEN, Prop. A. GIESEN, Mgr.

This house is situated right in the heart of the city, being only one block from Postoffice, Grand Opera House, Court House, and only two blocks from State Capitol, Metropolitan Opera House, etc. Steam Heat and all Modern Conveniences. Rates \$2.00 per day.

ST. HILAIRE, MINN.**HOTEL MARKHAM,**

BRINK BROS., Proprietors.

First-class in All Respects. Hot and Cold Water from our own Artesian Well. Heated with Steam Throughout. \$1.50 to \$2.00 per day.

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THOS. GUINEAN, PROPRIETOR.

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Wholesale and Retail**GUNS, AMMUNITION**

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Take three fallen hairs from the morning combings and mail them to Prof. J. H. Austin, the celebrated scalp and skin specialist of years standing and national reputation, who will send you absolutely **FREE** a Diagnosis of your special case after making a minute examination of your hairs under his specially constructed and powerful microscope. There is no charge whatsoever, and in addition he will send a special prescription for your case put up in a little box, also absolutely **FREE**. When you are cured of **DANDRUFF**, which is the forerunner of baldness, and grow **NEW HAIR** Prof. Austin asks that you tell your friends about it. **SEND NO MONEY**. If you are already partly or totally bald write and find the cure. **SEND 2c FOR POSTAGE. WRITE TO-DAY TO**
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MATTRESS
 is fit
 for a King.
 Send
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Especially if his bed has a Mattress made by
THE UNION MATTRESS CO., St. Paul, Minn.

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Have anything you want to sell,
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3-in-One oil half so good. A little bit will last a long time, and lubricate thoroughly any of the bearings. No grease or acid in it. Will not thicken or will not gum. Neither will it collect dust or dirt. Preserves the bearings, too. Applied to any metal surface, it will prevent rust and tarnish. Rub it on your wheel just before a ride in rain or mud. That's a test that tells. Certain bicycle manufacturers put it in the tool bag of every wheel they make. Racing men, century riders, wheel clubs, and dealers, are all loud in its praise.

Why don't you try it?

Ask your dealer for "the big bottle at the little price."

WHO HAS THE GLASSES?

A resident of Lester Park, who is a good fellow, and who can't long remain "mad" had a little tiff with his wife over applied conviviality the other day says the *Duluth News-Tribune*. She was the aggressor—and a slight, pretty little aggressor at that. He was just ashamed and wouldn't talk back, even to excuse himself.

Feeling depressed, and afraid to ask the usual good-bye kiss, he left the house with hesitating step. She—cried. She missed that kiss and made up her mind that her husband was beginning to sulk. She thought over the "difference" in its every possible phase, and by dinner time had arrived at a settled conclusion that he was selfish and did not care for her, anyway. Of course he'd try to make up and would patronize her—she would show him!

He was preoccupied all day, and was "joshed" about it. But a bright idea struck him.

When he went home, he called her to him—just as she knew he would—and said: "You can't guess what's in that box."

"I suppose not," she replied, trying to look bored.

"It's something I bought for the one I love best in all the world," he whispered.

"Ah," crushingly, "that Indian pipe you've been wanting?"

And that isn't the worst of it. In the intuitive way women have of knowing, she recognized the wrapper as having come from a certain jewelry house. He didn't mention the box again, placing it in his coat pocket. When he went away he took it with him, and she hasn't seen it since.

Next day she went to that jewelry house!

"My husband made a purchase here," began in the well bred tone of a customer, who wants something changed.

"Ah, yes," suavely, from the manager. "Did you like the opera glasses? They are really wonderful and we got them for a novelty—too expensive, you know, for trade, but your husband thought you would be charmed with them. Beautiful are they not?"

"Very," she replied faintly, moving toward the door.

Now, who has those opera glasses?

TRAPPING A PROFESSOR BY WIRE.

Among some interesting amusing college scrapes told by "A Graduate," in the *Ladies' Home Journal*, is the story of a certain professor, not much liked by his pupils, who was to be married. The lady lived in Cleveland. And the students that loved (?) him were not, of course, invited. But they determined that in some way he should hear from them. And he did. On the day appointed the professor took the train at 10 a. m., due to arrive at Cleveland at 12:30 p. m. About 11 o'clock Jim Townsend rushed to the telegraph office and sent off this dispatch:

"Chief of Police, Cleveland, Ohio:—Man coming on train No. 6, tall, well dressed, frock coat, silk hat, side whiskers. Escaped lunatic. Hold! Shrewd, therefore beware! Strange case. Will say name Finalli. Mistake. Thinks he is professor in college. Delusion. Escort to home of friends at No.—Euclid Avenue."

This message reached its destination long before train No. 6 reached Cleveland, so that when Professor Finalli alighted it was to walk straight into the custody of three detectives. They would listen to no words of reason, but escorted him out to the house on Euclid Avenue, the home of his intended bride.

WANTED HIS HONEY.

The following story is told on Sam Letts, a well known commercial traveler living in Hastings, says the humorist of the *Verndale (Minn.) Sun*. He is passionately fond of honey, and the proprietor of the Hampton House at Holdrege, where he always stops, always has some on hand for him. On one trip Letts took his wife along. When the pair was sitting at the supper table that night no honey appeared and Letts said sharply to the head waiter: "Where is my honey?" The waiter replied: "You mean that little black-haired one? Oh, she don't work here now."

And the story goes that Letts never did get it fixed up satisfactorily with his wife.

THE SUREST CROP COUNTRY IN THE WORLD.

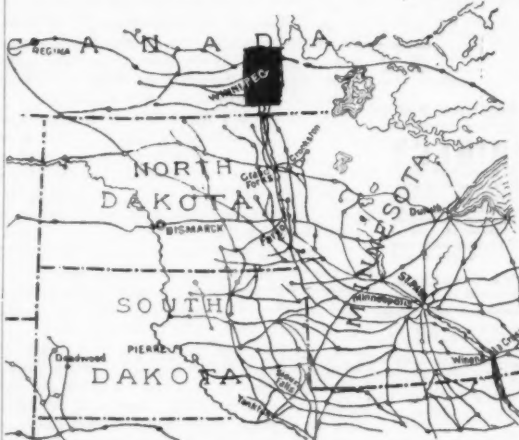
THE United States in 1900 produced 522,229,000 bushels of wheat. It took 42,485,000 acres of land to raise this crop. It was worth \$7.98 per acre, and was raised on land valued at \$35.00 per acre.

The province of Manitoba will raise this year

50,000,000 BUSHELS OF WHEAT

on 2,000,000 acres of land. The crop will be worth \$15.00 per acre, and the land is worth \$15.00 per acre.

We have 60,000 acres of land in the famous Red River Valley section of this province. The best wheat and stock land in the world, that we can sell you for from \$8.00 to \$12.00 per acre. (Note



the location of the land on the map.)

Write us for map, pamphlets, and full information regarding these lands.

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MERCER

COUNTY enjoys the heaviest annual rainfall of any county in all Western Dakota. The county is underlaid with the best lignite coal in veins of from 2 to 28 feet in depth. This means much to you.

MERCER

COUNTY has rich soil, pure water, the choicest grasses for fattening cattle, wheat yields from 10 to 30 bushels per acre, flax crops of from 8 to 18 bushels to the acre, elevators, creameries and a flour mill.

Churches of the various denominations, and excellent school facilities. We have just prepared interesting information on this rich section. Write to us today for maps, descriptions, prices, terms, etc.

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LOWEST RATES TO ALL POINTS.



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It runs *Daily* in both directions between St. Paul and Minneapolis and Duluth and the Superiors.

It is a brand new train of four cars, hauled by Atlantic type engines, the only ones of the sort in the Northwest.

It consists of a combination baggage and smoking car, first-class coach, *Parlor* car, and *Observation Cafe* car—all electric lighted, steam heated, wide vestibuled, and Pullman built.

The *Parlor Car* is elegantly finished in mahogany and satin wood, has finely upholstered movable Wicker chairs, and the lavatory arrangements, particularly for women, are something quite unusual.

The *Observation Car* is also finished in mahogany and satin wood, has two smoking rooms, a fine library, desk and stationery *free* to passengers, and a large *Observation Parlor* with plate glass windows, and at the rear an observation platform. The *Cafe* serves the best of meals at very moderate prices. Try this train once and you will use no other.

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Gen'l Pass. Agent,

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"IT WILL GROW HAIR ON
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OF MEN**
Cured in 2 to 6 Days

DR. KELLER'S SOLUBLE MEDICATED BOUGIES.
Positively a Harmless and Speedy Cure.
\$1.00 and \$1.50 per box at druggists or by mail.
Write for free treatise and testimonials.

MONROE MEDICINE CO., LA CROSSE, WIS.

Moose Hide Moccasins and Slippers,

Men's, \$2.75. Ladies' and Boys', \$2.25.

Best postpaid on receipt of price.

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Write for our illus-
trated circular and
price-list of hand-made hunting shoes and moccas-
ins of every description.



High Grade Printing At Rock Bottom Prices.

100 good white Note Heads, 40c. 1000, \$1.50. 100 fine Business
Cards, 50c. 1000, \$1.45. 100 good Envelopes, 45c. 1000, \$1.75. 100
each, Note Heads, Cards and Envelopes, only 95c. 1000 each, only
\$3.98. Other printing at equally low rates. We challenge any
other printing house to meet our prices, quality of work and material
used. Satisfaction guaranteed. On receipt of 4 cents to cover
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DRILLING MACHINERY

FOR WATER, GAS AND MINERAL PROSPECTING.
Steam or Horse Power. We are the oldest and largest
manufacturers of Drilling Machinery in this country.

Our machines are faster, stronger and easier to
operate than any other machine on the market.
They are no experiment. Thousands are in
successful operation. Special attention given
repair work. Send for Free Illustrated
catalogue to
The Kelly, Tanczyll & Woodruff Co.,
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USE THE ALL-WOOL MICA ROOFING.

It is adapted for any sort of roofs.
It is wind and water proof. C. P.
R. Co. uses large quantities, which is a
strong recommendation of its reliability.

W. G. FONSECA,

Main St., WINNIPEG, MAN.

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HAIR RESTORED.

Spanish Hair Wine is \$1
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Put to assure disappointed sufferers of their
true merit. WE SEND ANYONE FREE TRIAL
BOTTLES OF BOTH for 4 cents to pay postage.
One application stops dandruff. Cures baldness,
in loss luxuriant hair, row on head and face and
restores color. \$5.000 offer sent to all using our
free tri ls.

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BALTIMORE, MD., U. S. A.



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Special Manufacturing and Engraving for the Retail Jewelry Trade.

Class, College and Society Pins and Charms. Fine Engraving
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SAINT PAUL, MINN.**

OCCIDENTAL SIDEWALK CO.—Estimates furnished promptly on
driveways, curbs, cellar bottoms, sidewalks, bridge and brewery
work. Special attention paid to fine work. Office and factory,
2940 Eleventh Ave. South, Minneapolis Minn. Telephone, South
627. L. I. J. S. Ganley, Proprietor.



HOME LIFE OF SIOUX WOMEN.

"I am going to tell you something about the
uneducated Sioux women, their dress and their
home life," writes an Indian girl. "The Sioux
woman does more work than the man does. Of
course, the women do not know very much about
housekeeping; in fact, they don't know anything
about it. They live in log cabins, with only the
ground for the floor, and they have but one room.
In that room they have their beds in one corner,
their trunks around the sides, and they often
have beautiful bead work hanging on the walls.
They have a large stove as near the center of the
room as they can. On that stove you will always
find a coffee pot and tea kettle, and they are al-
ways kept full. If the women can have coffee to
drink they are happy; they think it is a great
medicine; they call it the black medicine.

"In the summer the Indian women do most of
their cooking out of doors. They put short
poles on each side of their fire, and a third stick
across from one to the other, and on this they
hang their kettle. The women, when at home, are
almost always sitting in their tepees, doing some
kind of bead work.

"The women are always getting up some kind
of a feast; that is, they have them very often, and
especially if one of their sons or daughters gets
married, they will spend their last cent to make a
great feast. They have a certain man go around
and tell everyone to come to that feast, when-
ever it may be, then when he has come back and
told them that he has told everyone the women
give him a horse. When they have the feast the
women all dress up in their brightest colors, paint
their faces and put all the bead work they can on
their little children. They have a great time
talking, especially the old women and men.

"The women's dresses are made with only two
seams, one on each side, so it makes a very loose
dress. It is short in the back and front and
long on the sides, and they almost always wear
a long beaded belt and a shawl; in fact, they wear
a shawl all the time; when it is not around the
head and shoulders it is tied around the waist.
They never wear a hat of any kind; even on the
hottest days they are bareheaded.

THE OLDEST WOMAN IN IOWA.

Mrs. Catharine Barrett is a woman in whom
much interest centers, as she is the oldest woman
in Iowa, and probably in the United States, if not
in the world.

She was born in the Isle of Wight, Nov. 1, 1786,
making her 114 years old, and has lived most of
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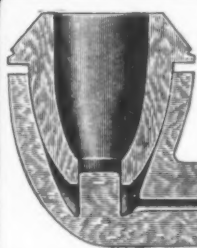
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WHEN GREEK MEETS GREEK.

Waiting at the union depot was a round-faced man with an attractive countenance, eyes that invited confidence, and rather long hair that waved from a fine forehead. He was dressed in clericals and looked the part. When the old farmer took a seat after buying a ticket for Ypsilanti, the two fell into conversation, relates the Detroit Free Press.

The minister brought the talk around to pick-pockets and men who fool you out of your money, and expressed a great dread of them. He clung to this topic until the noise of a row was heard from the outside, and he expressed a desire to see what was the matter.

"Come on," he shouted, as he started.

"No, my friend," replied the farmer, "not if you have any money about you. It is sure to be taken from you in a rough crowd like that."

"Here, you hold it and my watch until I run out a few minutes, and then I'll hold your valuables while you go."

"All right, don't be too long," and the farmer accepted his trust.

When the minister returned the farmer was gone. Never did a clerical masquerade come to so quick an end. He rushed around muttering things profane, kept his hand in his hip pocket and told everybody but the policeman that he could lick any farmer that ever wore shoe leather. Half an hour later he was in a saloon making things blue. "I'll know him if I ever see him again, I don't care how he's dressed, and I'll cut him into inch squares. I don't 'low any man to make a sucker of me and live to blow about it."

"Some guy cross-counter on the con game, Dick?"

"None of your blanked business; but if that mug didn't do the farmer as well as I did the sky-pilot I'll jump off the dock. He had a bunch with him as thick as your arm, too. But he's got all my stuff, and some lamb's got to make good."

It had simply been a case of diamond cut diamond.

MR. HEMSTREET'S PREDICAMENT.

Mr. Charles Hemstreet author of "Nooks and Corners in Old New York," is the victim of a paragraph. Several months ago a misguided friend, who wanted to surprise him with a complimentary personal notice and lacked an excuse to get it into the columns of a certain shipping paper, began the item with the false statement that the author was writing a book on New York's shipping.

It attained an amazing circulation. A city daily copied it into its literary column and it immediately spread to the country. Mr. Hemstreet, who knows nothing about shipping and cares less, vigorously denied it, but the paragraph sped on its way. Mr. Hemstreet got vexed and wrote letters, but the paragraph spread like measles. Clipping bureaus sent it to him by the yard, and from every part of the country.

After awhile he began to be mentioned as "the well-known expert on shipping." The climax came when he was asked to write a magazine article on "Yachting, past and present."

That paragraph is still travelling. It was last seen in New Mexico, having run east from the Pacific Coast, where it lingered for weeks, visiting nearly every town that boasted a newspaper. And the maddening part of it to the author is that he has a book coming out this fall, but on a wholly different subject. It is a book for young folks, and in the field in which Mr. Hemstreet is an authority, namely old New York. It is entitled "The Story of Manhattan." He recounts the varied and picturesque history of the city of his affection with a most sympathetic pen, but he has nothing to say about shipping. His pictures of colonial and revolutionary times are as quaint and captivating as the subject itself, but they didn't have yachts enough to mention in those days. Mr. Hemstreet hopes he may yet outlive that shipping story, but he has his doubts.

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"I went over and sat in the lap of a corpulent lady from Manitoba, and a girl from Chicago jumped over nine seats and sat on the plug hat of a preacher from Lacrosse with so much timid, girlish enthusiasm that it shoved his hat clear down over his shoulders.

"Everybody seemed to lay aside the usual cool reserve of strangers, and we made ourselves entirely at home.

"A shy young man with an emaciated oilcloth valise left his own seat and went over and sat down in a lunch basket where a bridal couple seemed to be wrestling with their first picnic. Do you suppose that reticent young man would have done such a thing on ordinary occasions? Do you think if he had been at a celebration at home that he would have risen impetuously and gone where those people were eating by themselves and sat down in the cranberry jelly of a total stranger?

"I should rather think not.

"Why, one old man who probably at home led the class meeting, and who was as dignified as Roscoe Conkling's father, was eating a piece of custard pie when we met the other train, and he left his own seat and went over to the front end of the car and shot that piece of custard pie into the ear of a beautiful widow from Iowa.

"People traveling somehow forget the austerity of their home lives and form acquaintances that last through life."

HIS CAUSE FOR TEARS.

At a seance the other day, when the lights had been turned low, the medium was describing a tall, dark-eyed, handsome spirit, with long mustaches and hair parted carefully down the center, that was hovering around a middle-aged but elderly looking man, when he burst suddenly into tears; heart-rending sobs shook his thin frame.

"George! George!" he cried, "why, oh, why did you leave me to the misery of these past years?"

"Then you knew him?" asked the medium.

"Knew him?" murmured the down-hearted man.

"I saw him daily for months and months. Oh, George," he continued, "why did you die?"

"My good man," pleaded the medium, "you must pull yourself together. Though his loss to you must have been a great one, you may yet meet another friend who will fill his place."

"No, no," he cried. "His place is filled."

"Filled! Why what do you mean?" asked the medium, astonished.

"He was my wife's first husband."

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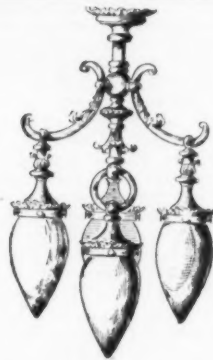
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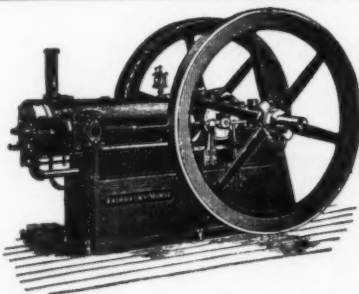
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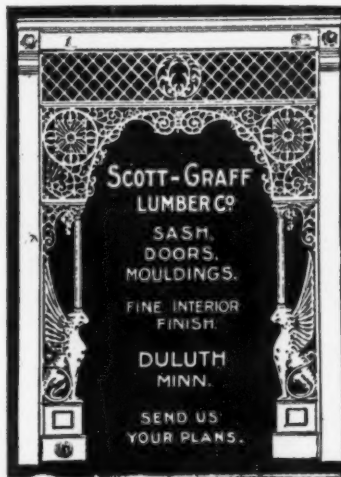
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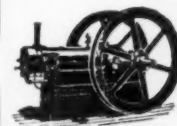
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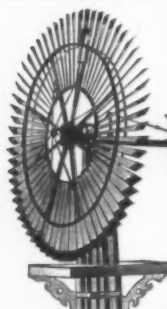
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Linked with the heart of a child,
Nothing of riches but sweetness,
Sweetness that spoke when it smiled.
Naught of success that is worldly,
Nothing of riches it had,
Only the soul of a dreamer
That threaded the mists and was glad.

Only the soul of a dreamer,
That rose from the earth to the sky,
Roamed with the clouds and the sunbeams,
Sang where the swift swallows fly.
Lands it had not, nor fine castles
Haughtily reared, stone by stone,
Only the soul of a dreamer
That prized all the earth as its own.

Only the soul of a dreamer,
Lifted up out of the mire,
Up from the deeps, dense and dismal,
Into the nobler and higher.
Marred not by greed or contention,
No struggling beast o'er a bone,
Seeking but sweetness and silence,
Peace—and its dreamings alone.

Only the soul of a dreamer,
Dreaming of peace and content,
Love that engulfs every weakness,
Earth and its bitterness blent.
Blent with the sweetness of Heaven,
Only the far-fleeting eyes—
Far-fleeting eyes of the dreamer—
See from the earth—Paradise!

Only the soul of a dreamer,
Up from the din and the dust,
Out of the shock of the battle,
Up from the levels of lust.
Only the soul of a dreamer,
Naught of earth's riches it had.
But it sped, with the song and the sunshine,
Into the skies—and was glad.

J. W. FOLEY.

Bismarck. N. D.

"WITH YOU."

Although the sun shines bright today
And everyone seem happy—gay,
Yet for me there is no light,
And all is dark as starless night,
Without you!

When evening comes, my pen I lay,
And from my desk I turn away.
I seek no concert hall or play,
But wait until the time I may
Be with you!

Then all assumes a different light,
Then all is day, there is no night,
And all I own I'd gladly give
If by your side you'd let me live,
Always with you!

St. Paul.

HERBERT DEANE.

"TODAY."

I ask you to be mine, my dear,
To fill my life with light.
I want you always with me here;
Forever in my sight.

Toward me your pretty head you bend
And blush from chin to brow,
As softly comes the question—"When?"
I answer quickly—"Now."

Next summer, do you say?
A long ways off, my dear.
Next April, June or May?
That's not so very near.
Come, why should we delay
When it is still today.

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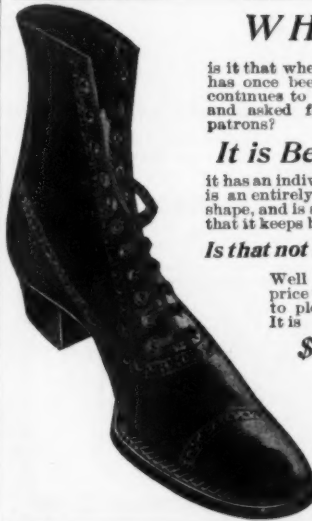
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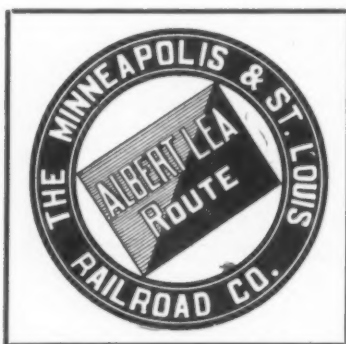
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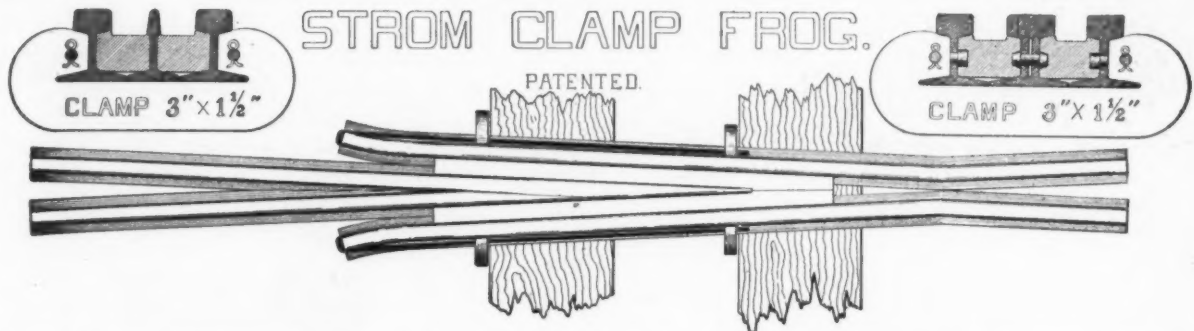
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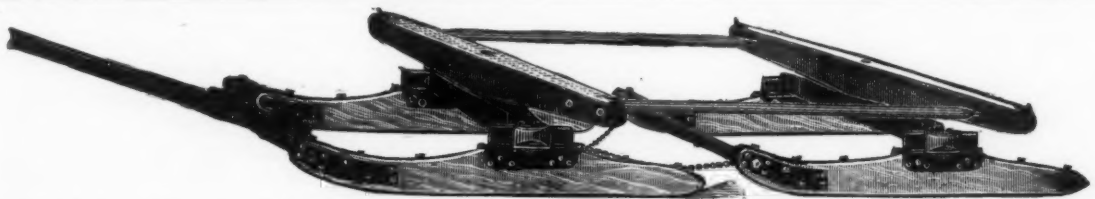
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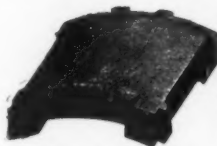


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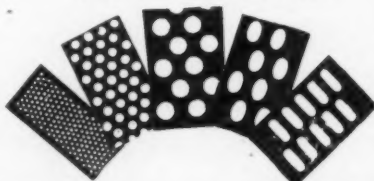
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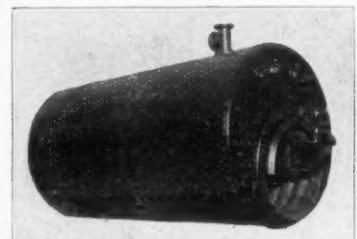
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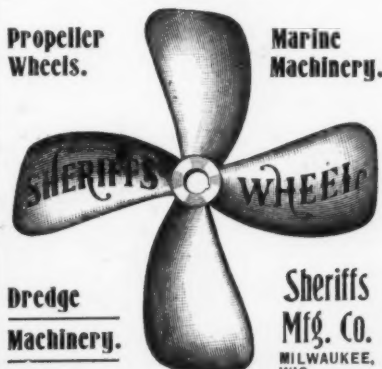


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"That's very plain," said he.

"Halloa, sir! How is it I catch you kissing my daughter?" "By sneaking in upon us, sir."

About all a boy is good for until he is fifteen is to run errands, and eat up the last piece of pie.

Eve—"Just think, I'll be two weeks old to-morrow."

Adam—"Well, my dear, you don't look it."

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The Salesgentleman—"The price is 98 cents, madam, which you must admit is quite de-collete."

Mrs. Schoppen—"Decollete?"
The Salesgentleman—"Yes, madam. Cut low."

Wife—"What's funny in that letter you are reading?"

Husband—"It's from Boston. He asks if I don't want to pay that \$10 I owe him."

Soulful Youth (at the piano)—"Do you sing 'For Ever and For Ever?'"

Matter-of-Fact Maiden—"No; I stop for meals."

Sue—"You said you were going to marry an artist, and now you're engaged to a dentist."

Flo—"Well, isn't he an artist? He draws from real life!"

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The young bride who reads with a proud thrill "she swept up the aisle on her father's arm," never thinks of the after days when she will sweep up the kitchen and dining room floors and not even get a mention in the society columns.

Ella—"To think that it is two years since we met, and you know me all at once. Then I haven't changed much, after all!"

Bella—"Oh, I knew you by your hat. Who would have thought there was so much wear in it?"

Mr. Fiskuff (after conversing with neighbor)—"Johnny, whose fault was it that Tommy Tuffin got a black eye?" Johnny Fiskuff—"His own." Mr. Fiskuff (very deliberately)—"Are you sure, now?" Johnny Fiskuff—"Dead sure! Why, he left an opening you could drive a band wagon through."

A Grand Forks little miss was somewhat peevish one morning and her mother exclaimed testily, "I wonder which side of the bed you got out of this morning." The little one thought it over and ventured: "I think the same side you got out of, mamma." And the mother thought there might be more to that than the child imagined.

She (turning from the piano)—"There, how do you like that refrain?"

He—"Splendid—and the more you refrain the better I like it."

Then We Get the Figures.—"One never knows a man's real value until he is dead," commented the thoughtful woman.

"True," replied the worldly woman. "Previous to that we can only speculate on the amount of the insurance he carries."



HE HAD SWORN OFF.

She—"Would you love me just the same, dearest, if I were poor instead of worth a million?"
He—"I have registered a solema vow never to discuss the financial question again."

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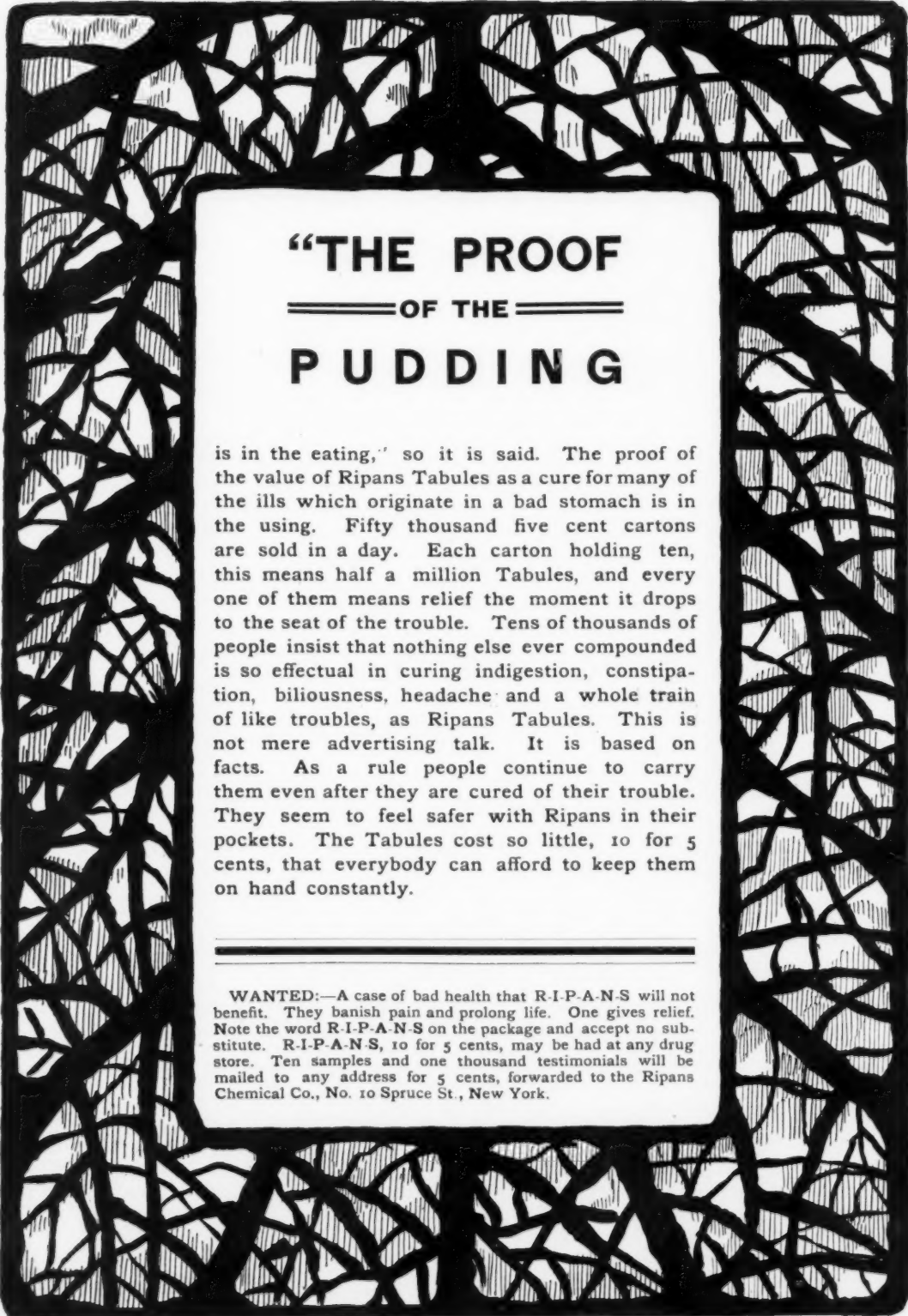
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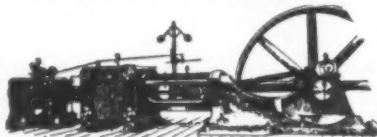
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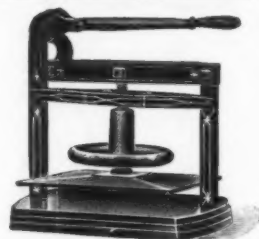


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